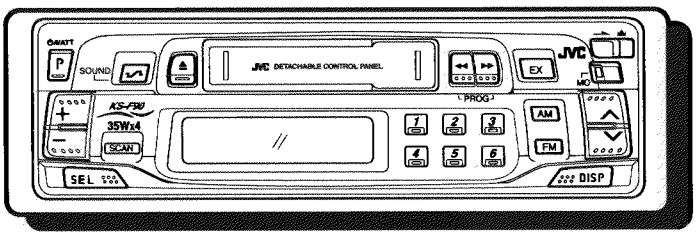
JVC

SERVICE MANUAL

CASSETTE RECEIVER

KS-F90



Area Suffix

E ------ Continental Europe
J ------ U.SA.

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No.49474
May 1998

Safety Precaution

⚠ ***CAUTION*** **Burrs formed during molding may be left over on some parts of the chassis. Therefore, pay attention to such burrs when preforming repairs of this system.**

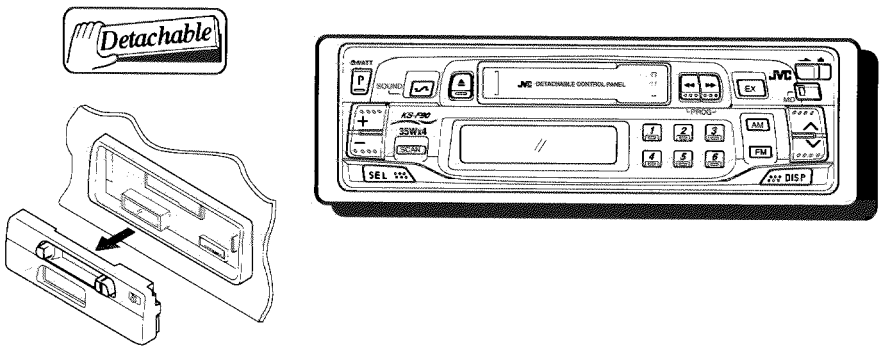
⚠ ***CAUTION*** **Please use enough caution to avoid direct exposure to the beam or touch it in case of an adjustment or operation check.**

JVC

CASSETTE RECEIVER **KS-F90** ENGLISH

RECEPTOR-REPRODUCTOR DE CASSETTE **KS-F90** ESPAÑOL

RADIOCASSETTE **KS-F90** FRANÇAIS



For installation and connections, refer to the separate manual.
Para la instalación y las conexiones, refiérase al manual separado.
Pour l'installation et les raccordements, se référer au manuel séparé.

INSTRUCTIONS

MANUAL DE INSTRUCCIONES
MANUEL D'INSTRUCTIONS

For customer Use:
Enter below the Model No. and Serial No. which are located on the top or bottom of the cabinet. Retain this information for future reference.

Model No. _____

Serial No. _____

FSUN3042-631
[J]

Thank you for purchasing a JVC product. Please read all instructions carefully before operation, to ensure your complete understanding and to obtain the best possible performance from the unit.

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BEFORE USE

** For safety....*

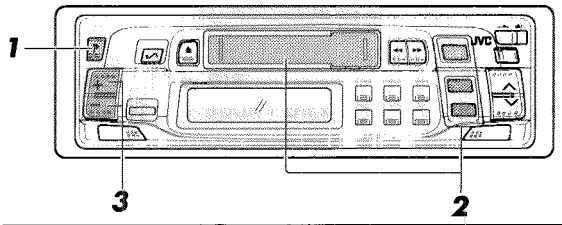
- *Do not raise the volume level too much, as this will block outside sounds, making driving dangerous.*
- *Stop the car before performing any complicated operations.*

**** Temperature inside the car....***

If you have parked the car for a long time in hot or cold weather, wait until the temperature in the car becomes normal before operating the unit.

BASIC OPERATIONS

ENGLISH



Note:
When you use this unit for the first time, set the built-in clock correctly, see page 13.

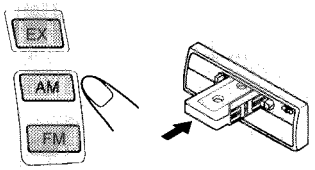
1

Turn on the power.

Notes on One-Touch Operation:

- *When you select tuner as a source in step 2 below, the power automatically comes on. You do not have to press this button to turn on the power.*
- *If the cassette is already in the cassette compartment, tape play starts automatically.*

2

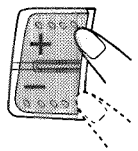


Play the source.

To operate the tuner, see pages 4 – 8.
To operate the tape deck, see page 9.

EX (extra) button: *To use this button, you need to preset your favorite station in advance. For details, see pages 6 – 7.*

3



Adjust the volume.

4

Adjust the sound as you want (see pages 10 – 12).

To drop the volume in a moment

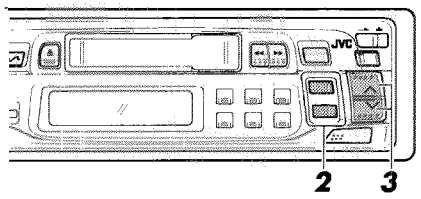
Press O/N/ATT P briefly while listening to any source. "ATT" starts flashing on the display, and the volume level will drop in a moment.
To resume the previous volume level, press the button briefly again.

To turn off the power

Press O/N/ATT P for more than 1 second.

OPERATIONS

adio



Turn on the power.

ne-Touch Operation:
lect a band in step 2 below, the power automatically comes on. You to press this button to turn on the power.

Select the band (FM1, FM2, FM3 or AM).
You can select any one of FM1, FM2, and FM3 to listen to an FM station.

ette is in the cassette compartment, you cannot select the tuner. Be sure assette from the cassette compartment to listen to the radio.

stations of
quencies.

Start searching a station.
When a station is received, searching stops.

stations of
quencies.

station is received, press the same button you have pressed

ir frequency manually:
band.
til the MANU indicator starts flashing on the display.
ge the frequency while the MANU indicator is flashing.
until the frequency you want is reached.
, the frequency keeps changing until you release the button.

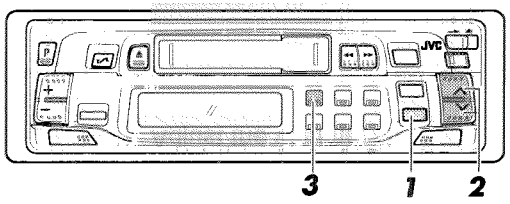
Storing stations in memory

You can store the broadcasting stations in memory.

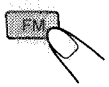
Storing stations manually

You can preset up to 6 stations in each band (FM1, FM2, FM3 and AM) manually.

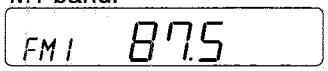
EXAMPLE: Storing an FM station of 88.3 MHz into the preset number 1 of the FM1 band



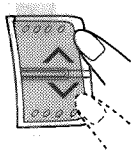
1



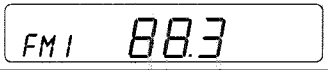
Select the FM1 band.



2

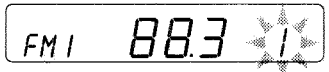


Tune into a station of 88.3 MHz.
See page 4 to tune into a station.



3

Press and hold the button for more than 1 second.



Preset number "1" flashes for a while.

4

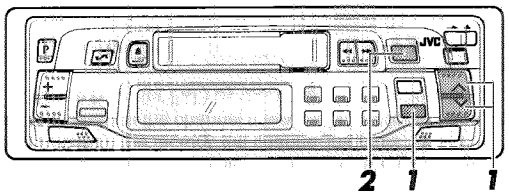
Repeat the above procedure to store other stations into other preset numbers.

Notes:
- *A previously preset station is erased when a new station is stored in the same preset number.*
- *Preset stations are erased when the power supply to the memory circuit is interrupted (for example, during battery replacement). If this occurs, preset the stations again.*

Storing your favorite stations into the one-touch operation button (EX — extra)

You can preset an FM or AM station (such as your favorite station or traffic announcement station); and recall it by one touch operation even if the unit is turned off.

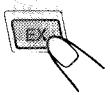
EXAMPLE: Storing an FM station of 88.3 MHz into the one-touch operation button (EX)



1

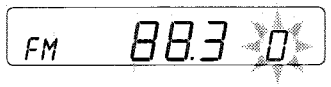
Follow the steps **1** and **2** on page 5.

2



Press and hold the button for more than 1 second.

"0" flashes on the display, showing that the station has been preset.

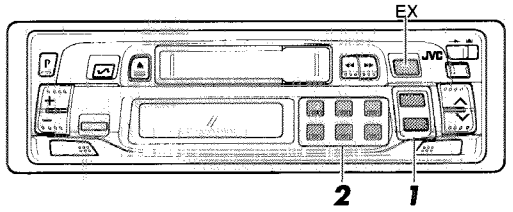


Notes:

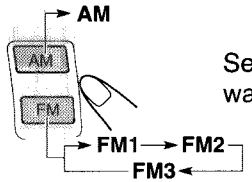
- *A previously preset station is erased when a new station is stored.*
- *Preset station is erased when the power supply to the memory circuit is interrupted (for example, during battery replacement). If this occurs, preset the station again.*

Tuning into a preset station

You can easily tune into a preset station.
Remember that you must store stations first. If you have not stored them yet, see pages 5 and 6.



1

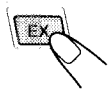


Select the band (FM1, FM2, FM3 or AM) you want.

2

Select the number (1 – 6) for the preset station you want.

To tune in the favorite station



The unit automatically turns on (if it has been off).
Your favorite station is tuned in — except when the tape is playing.

- *If you press the button again, the last received station will be tuned in.*

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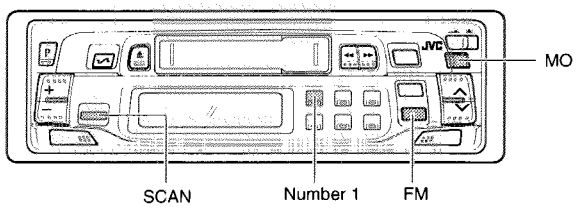
1-5

Other convenient tuner functions



Scanning broadcast stations

When you press SCAN while listening to the radio, station scanning starts. Each time a broadcast is tuned in, scanning stops for about 5 seconds (tuned frequency number flashes on the display), and you can check what program is now being broadcast.

If you want to listen to that program, press the same button again to stop scanning.

Selecting FM reception sound

When an FM stereo broadcast is hard to receive:

Press MO while listening to an FM stereo broadcast. The sound you hear becomes monaural but reception will be improved.

Lights when receiving an FM broadcast in stereo

To restore the stereo effect, press the same button again.

Changing the AM/FM channel intervals

When using this unit in an area other than North or South America:

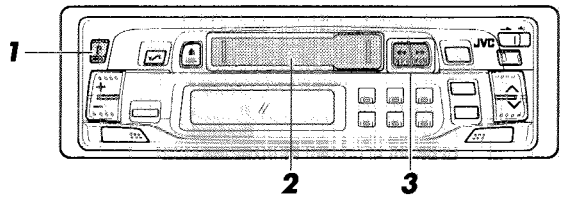
When this unit is shipped from the factory, the channel intervals are set to 10 kHz for AM and 200 kHz for FM. You can change the channel intervals (9 kHz for AM and 50 kHz (for manual tuning) / 100 kHz (for searching) for FM.) by following the procedure below.

While pressing FM, press Number 1 button for more than 3 seconds.

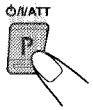
To reset to the factory setting, press the Number 1 button again for more than 3 seconds while pressing FM.

TAPE OPERATIONS

Listening to a tape

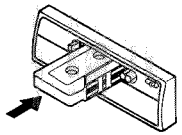


1



Turn on the power.

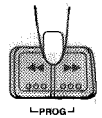
2



Insert a cassette.

When one side of the tape reaches its end during play, the other side of the tape automatically starts playing. (Auto Reverse)

3



Select the tape direction.

• *Press both buttons at the same time.*

Each time you press both buttons simultaneously, the tape direction changes alternatively – forward (►) and reverse (◄).

To stop play and eject the cassette

Press ⏏.

Tape play stops and the cassette ejects from the cassette compartment.

You can hear the last received station.

• *You can also eject the cassette with the unit turned off.*

To fast-wind a tape

Press either ►► or ◄◄.

The tape will be wound in the direction of the arrows (►► or ◄◄).

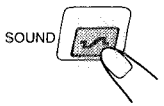
To restart playback, press ►► or ◄◄ lightly.

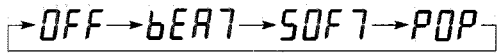
SOUND ADJUSTMENTS

Selecting preset sound modes

You can select a preset sound adjustment suitable to the music genre.

Each time you press SOUND, the sound mode changes as follows.





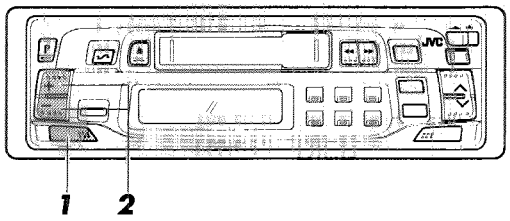
Indication	For:	Preset values		
		Bass	Treble	Loudness
OFF	(Flat sound)	0	0	On
BEAT	Rock or disco music	2	0	On
SOFT	Quiet background music	1	–3	Off
POP	Light music	4	1	Off

Notes:

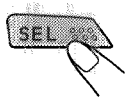
- *You can adjust the preset sound mode to your preference, and store it in memory. If you want to adjust and store your original sound mode, see "Storing your own sound adjustments" on page 12.*
- *To adjust only the bass and treble reinforcement levels to your preference, see "Adjusting the sound" on page 11.*

Adjusting the sound

You can adjust the sound characteristics to your preference.



1



Select the item you want to adjust.

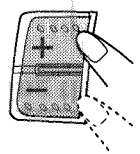
Indication	To do:	Range
BAS (bass)	Adjust the bass	–6 (min.) — 6 (max.)
TRE (treble)	Adjust the treble	–6 (min.) — 6 (max.)
FAD (Fader)*	Adjust the front and rear speaker balance	R5 (rear only) — F5 (front only)
BAL (Balance)	Adjust the left and right speaker balance	L6 (left only) — R6 (right only)
LOUD (Loudness)	Turn on or off the loudness function**	ON — OFF
VOL (Volume)	Adjust the volume	00 (min.) — 50 (max.)

Notes:

* *If you are using a two-speaker system, set the fader level to "0" (center).*

** *The loudness function can boost low and high frequencies to produce a well-balanced sound at low volume levels. When loudness function is "ON," the LOUD indicator lights up on the display.*

2



Adjust the level.

Note:

Normally the + and – buttons work as the volume control buttons. So you do not have to select "VOL" to adjust the volume level.

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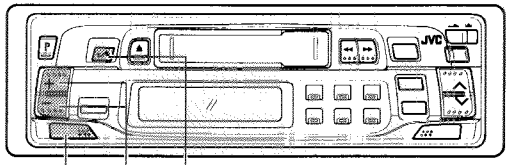
Storing your own sound adjustments

You can adjust the sound modes (BEAT, SOFT, POP: see page 10) to your preference and store your own adjustments in memory.



1 SOUND

Call up the sound mode you want to adjust.
See page 10 for details.

Within 5 seconds

2 SEL

Select "BAS (bass)," "TRE (treble)" or "LOUD (loudness)."

Within 5 seconds

3

Adjust the selected item.
See page 11 for details.

Within 5 seconds

4 SOUND

Press and hold SOUND until the sound mode you have selected in step 1 flashes on the display.
Your setting is stored in memory.

5

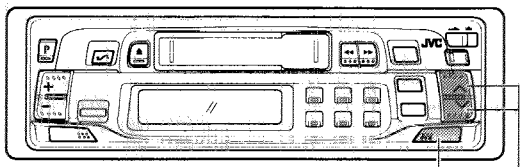
Repeat the same procedure to store other settings.

To reset to the factory settings

Repeat the same procedure and reassign the preset values listed in the table on page 10.

OTHER MAIN FUNCTIONS

Setting the clock



1 DISP

Display the clock if it is not shown.

1:00

2 DISP

Press and hold DISP until clock setting is complete.

3

Adjust the clock.

To adjust the minute

To adjust the hour

7:30

4 DISP

Release DISP.
The clock starts working.

To check the current clock time (changing the display mode)

Press DISP repeatedly. Each time you press the button, the display mode changes as follows.

During tuner operation:	During tape operation:
Frequency ⟷ Clock	Play mode ⟷ Clock

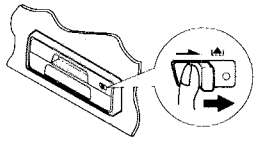
Detaching the control panel

You can detach the control panel when leaving the car.
When detaching or attaching the control panel, be careful not to damage the connectors on the back of the control panel and on the panel holder.

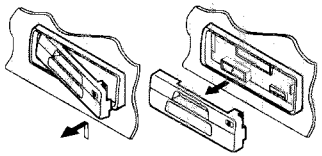
How to detach the control panel

Before detaching the control panel, be sure to turn off the power.

1 Unlock the control panel.

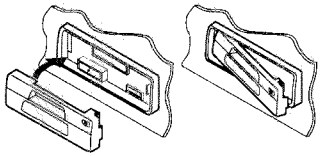


2 Lift and pull the control panel out of the unit.

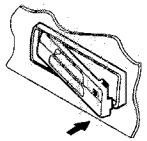


How to attach the control panel

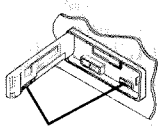
1 Insert the left side of the control panel into the groove on the panel holder.



2 Press the right side of the control panel to fix it to the panel holder.



Note on cleaning the connectors:
If you frequently detach the control panel, the connectors will deteriorate.
To minimize this possibility, periodically wipe the connectors with a cotton swab or cloth moistened with alcohol, being careful not to damage the connectors.

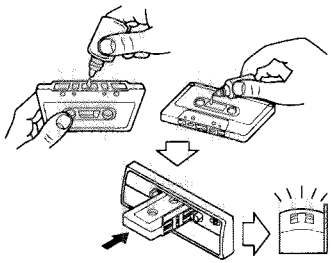


Connectors

To extend the lifetime of the unit

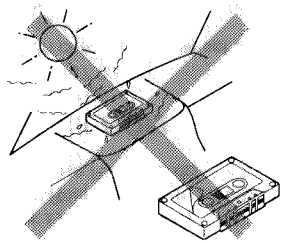
This unit requires very little attention, but you will be able to extend the life of the unit if you follow the instructions below.

To clean the heads



- Clean the heads after every 10 hours of use using a wet-type head cleaning tape (available at an audio store).
  When the head becomes dirty, you may realize the following symptoms:
  – Sound quality is reduced.
  – Sound level decreases.
  – Sound drops out.
- Do not play dirty or dusty tapes.
- Do not touch the highly-polished head with any metallic or magnetic tools.

To keep the tape clean



- Always store the tapes to their storage cases after use.
- Do not store tapes in the following places:
  – Subject to direct sunlight
  – With high humidity
  – At extremely hot temperatures

CAUTIONS:
- *Do not play the tapes with peeling labels; otherwise, they can damage the unit.*
- *Tighten tapes to remove slack since loose tape may become entangled with the mechanism.*
- *Do not leave a cassette in the cassette compartment after use, as the tape may become slack.*

TROUBLESHOOTING

What appears to be trouble is not always serious. Check the following points before calling a service center.

Symptoms	Causes	Remedies
• A cassette tape cannot be inserted.	You have tried to insert a cassette in the wrong way.	Insert the cassette with the exposed tape facing right.
• Cassette tapes become hot.	This is not a malfunction.	———
• Tape sound is at very low level and sound quality is degraded.	The tape head is dirty.	Clean it with a head cleaning tape.
• Sound is sometimes interrupted.	Connections are not good.	Check the cords and connections.
• Sound cannot be heard from the speakers.	The volume control is turned to the minimum level.	Adjust it to the optimum level.
	Connections are incorrect.	Check the cords and connections.
• Static noise while listening to the radio.	The antenna is not connected firmly.	Connect the antenna firmly.

SPECIFICATIONS

AUDIO AMPLIFIER SECTION

Maximum Power Output:
Front: 35 watts per channel
Rear: 35 watts per channel
Continuous Power Output (RMS):
Front: 15 watts per channel into 4 Ω, 40 to 20,000 Hz at no more than 0.8% total harmonic distortion.
Rear: 15 watts per channel into 4 Ω, 40 to 20,000 Hz at no more than 0.8% total harmonic distortion.
Load Impedance: 4 Ω (4 to 8 Ω allowance)
Tone Control Range
Bass: ±10 dB at 100 Hz
Treble: ±10 dB at 10 kHz
Frequency Response: 40 to 20,000 Hz
Signal-to-Noise Ratio: 70 dB

TUNER SECTION

Frequency Range
FM: 87.5 to 107.9 MHz
(with channel interval set to 200 kHz)
87.5 to 108.0 MHz
(with channel interval set to 50 kHz)
AM: 530 to 1,710 kHz
(with channel interval set to 10 kHz)
531 to 1,602 kHz
(with channel interval set to 9 kHz)

[FM Tuner]
Usable Sensitivity: 12.1 dBf (1.1 μV/75 Ω)
50 dB Quieting Sensitivity:
16.3 dBf (1.8 μV/75 Ω)
Alternate Channel Selectivity (400 kHz):
65 dB
Frequency Response: 40 to 15,000 Hz
Stereo Separation: 35 dB
Capture Ratio: 2.0 dB

[AM Tuner]
Sensitivity: 20 μV
Selectivity: 35 dB

CASSETTE DECK SECTION

Wow & Flutter: 0.15% (WRMS)
Fast-Wind Time: 190 sec. (C-60)
Frequency Response:
50 to 14,000 Hz (±3 dB)
Signal-to-Noise Ratio: 52 dB
Stereo Separation: 40 dB

GENERAL

Power Requirement
Operating Voltage: DC 14.4 volts (11 to 16 volts allowance)
Grounding System: Negative ground
Dimensions (W x H x D)
Installation Size:
182 x 52 x 152 mm
(7-3/16" x 2-1/16" x 6")
Panel Size: 189 x 58 x 14 mm
(7-1/2" x 2-5/16" x 5/8")
Mass: 1.3 kg (2.9 lbs) (excluding accessories)

Design and specifications subject to change without notice.

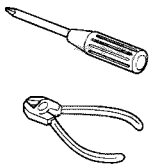
If a kit is necessary for your car, consult your telephone directory for the nearest car audio speciality shop.

KS-F90

Installation/Connection Manual
Manual de instalación/conexión
Manuel d'installation/raccordement

FSUN3042-T631
[J]

Printed in Singapore
0398MNMMDWJES
EN, SP, FR



ENGLISH

- This unit is designed to operate only on 12 volts DC, NEGATIVE ground electrical systems.

INSTALLATION (IN-DASH MOUNTING)

- The following illustration shows a typical installation. However, you should make adjustments corresponding to your specific car. If you have any questions or require information regarding installation kits, consult your JVC car audio dealer or a company supplying kits.

1 Before mounting: Slide the Control Panel Release lever ⏏ to detach the control panel.

2 Attach the 2 side springs with the flat type screw supplied.

3 Install the sleeve into the dashboard.

* After the sleeve is correctly installed in the dashboard, bend the appropriate tabs to hold the sleeve firmly in place, as illustrated.

4 Fix the mounting bolt to the rear of the unit's body and place the rubber cushion over the end of the bolt.

5 Do the required electrical connections explained on the back of this instructions.

6 Slide the unit into the sleeve until it is locked.

7 Attach the trim plate.

8 Attach the control panel.

ESPAÑOL

- Esta unidad está diseñada para funcionar con 12 voltios de CC, con sistemas eléctricos de masa NEGATIVA solamente.

INSTALACION (MONTAJE EN EL TABLERO DE INSTRUMENTOS)

- En las ilustraciones siguientes se muestra una instalación típica. Sin embargo, es posible que deba realizar algunos ajustes para instalar esta unidad en su automóvil. Cuando tenga alguna duda o necesite información sobre el kit de instalación, consulte con su concesionario JVC de equipos de audio para automóviles o con la tienda proveedora de kits.

1 Antes de instalar: Deslice la palanca de liberación ⏏ del panel de control para desmontar el panel de control.

2 Fije los 2 resortes laterales con los tornillos de tipo plano suministrados.

3 Instale la manga en el tablero de instrumentos.

* Después de instalar correctamente la manga en el tablero de instrumentos, doble las lengüetas apropiadas para retener firmemente la manga en su lugar, tal como se muestra.

4 Fije el perno de montaje en la parte posterior del cuerpo de la unidad e introduzca el cojín de goma sobre el extremo del perno.

5 Realice las conexiones eléctricas requeridas en base a las instrucciones que figuran al dorso de estas instrucciones.

6 Deslice la unidad dentro de la manga, hasta que quede bloqueada.

7 Fije la placa de guarnición.

8 Fije el panel de control.

FRANÇAIS

- *Cet appareil est conçu pour fonctionner sur des sources de courant continu de 12 volts à masse NEGATIVE seulement.*

INSTALLATION (MONTAGE DANS LE TABLEAU DE BORD)

- *L'illustration suivante est un exemple d'installation typique. Cependant, vous devez faire les ajustements correspondant à votre voiture particulière. Si vous avez des questions ou avez besoin d'information sur des kits d'installation, consultez votre revendeur d'autoradios JVC ou une compagnie d'approvisionnement.*

1 Avant le montage: *Faites glisser la touche de libération du panneau de commande ⏏ pour détacher le panneau de commande.*

2 *Attachez les 2 ressorts latéraux avec les vis à tête plate fournis.*

3 *Installer le manchon dans le tableau de bord.*

* *Après installation correcte du manchon dans le tableau de bord, plier les bonnes pattes pour maintenir fermement le manchon en place, comme montré.*

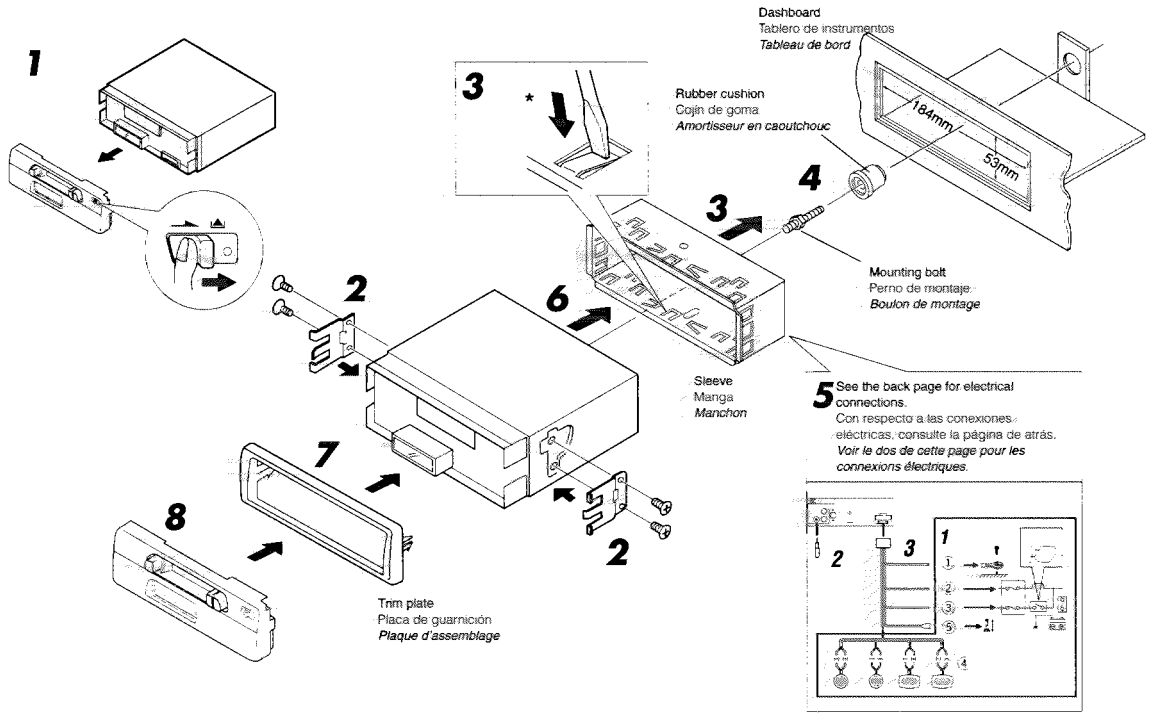
4 *Fixez le boulon de montage sur l'arrière de l'appareil puis passer l'amortisseur en caoutchouc sur l'extrémité du boulon.*

5 *Réalisez les connexions électriques expliquées à la fin de ce manuel d'installation.*

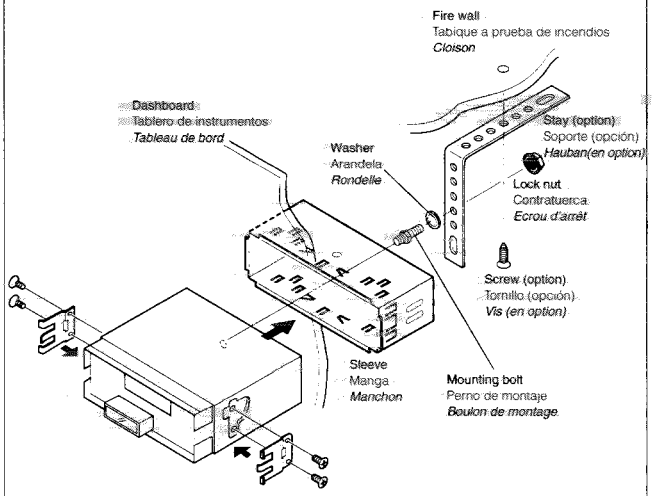
6 *Faire glisser l'appareil dans le manchon jusqu'à ce qu'il soit verrouillé.*

7 *Fixer la plaque d'assemblage.*

8 *Remonter le panneau de commande.*

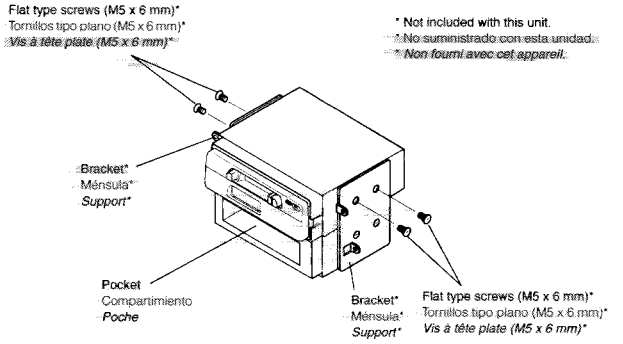


• When using the optional stay
• Cuando emplea un soporte opcional
• Lors de l'utilisation du hauban en option



• When installing the unit without using the sleeve
• Instalación de la unidad sin utilizar la cubierta
• Lors de l'installation de l'appareil sans utiliser de manchon

In a Toyota for example, first remove the car radio and install the unit in its place.
En un Toyota por ejemplo, primero extraiga la radio del automóvil y luego instale la unidad en su lugar.
Par exemple dans une Toyota, retirer d'abord l'autoradio et installer l'appareil à la place.



Note: When installing the unit on the mounting bracket, make sure to use the 6 mm-long screws. If longer screws are used, they could damage the unit.

Nota: Cuando instala la unidad en la ménsula de montaje, asegúrese de utilizar los tornillos de 6 mm de longitud. Si se utilizan tornillos más largos, éstos pueden dañar la unidad.

Remarque: *Lors de l'installation de l'appareil sur le support de montage, s'assurer d'utiliser des vis d'une longueur de 6 mm. Si des vis plus longues sont utilisées, elles peuvent endommager l'appareil.*

Removing the unit

• Before removing the unit, release the rear section.

1 Remove the control panel.

2 Remove the trim plate.

3 Insert the 2 handles into the slots, as shown. Then, while gently pulling the handles away from each other, slide out the unit. **(Be sure to keep the handles after installing it.)**

Extracción de la unidad

• Antes de extraer la unidad, libere la sección trasera.

1 Extraiga el panel de control.

2 Retire la placa de guarnición.

3 Inserte las 2 manijas entre las ranuras, como se muestra. Luego, separe suavemente las manijas y extraiga la unidad. **(Asegúrese de conservar las manijas después de instalarlo.)**

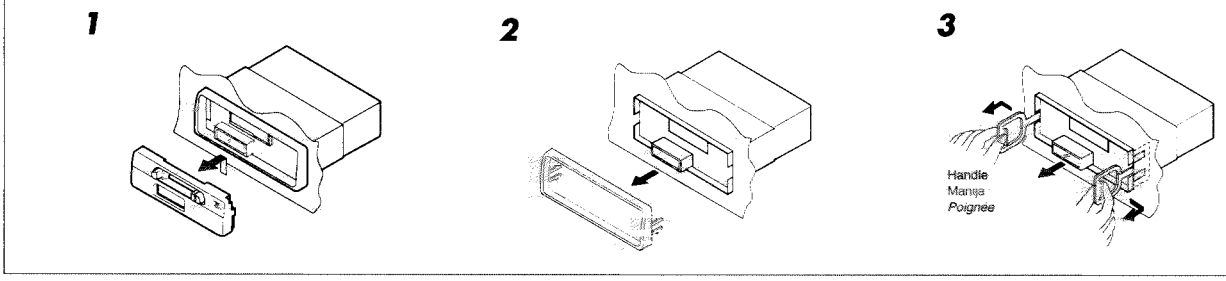
Retrait de l'appareil

• *Avant de retirer l'appareil, libérer la section arrière.*

1 *Retirer le panneau de commande.*

2 *Retirer la plaque d'assemblage.*

3 *Introduire les deux poignées dans les fentes, comme montré. Puis, tout en tirant doucement les poignées écartées, faire glisser l'appareil pour le sortir.* **(S'assurer de conserver les poignées après l'installation de l'appareil.)**



Parts list for installation and connection

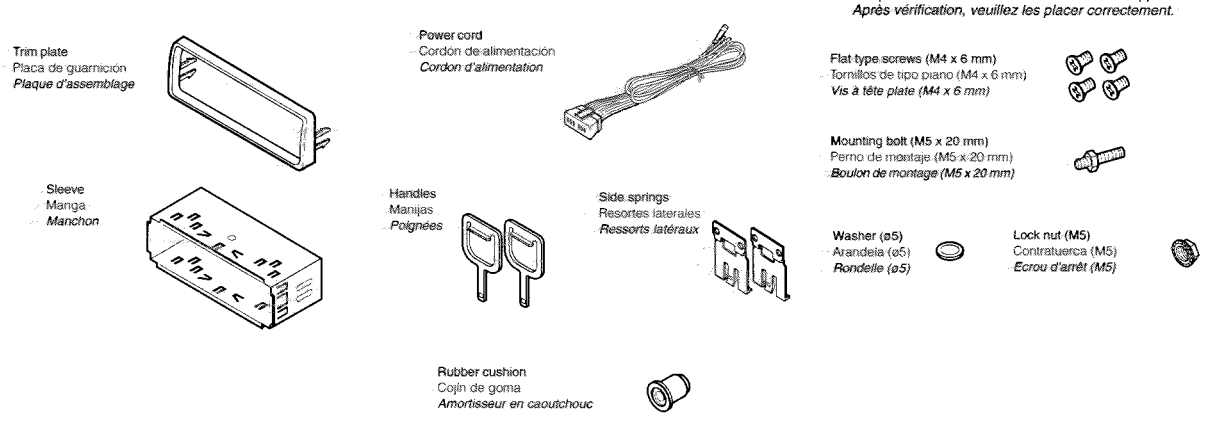
The following parts are provided with this unit.
After checking them, please set them correctly.

Lista de piezas para instalación y conexión

Con esta unidad se suministran las siguientes piezas.
Después de inspeccionarlas, colóquelas correctamente.

Liste des pièces pour l'installation et raccordement

Les pièces suivantes sont fournies avec cet appareil.
Après vérification, veuillez les placer correctement.



ENGLISH

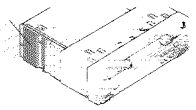
ELECTRICAL CONNECTIONS

To prevent short circuits, we recommend that you disconnect the battery's negative terminal and make all electrical connections before installing the unit. If you are not sure how to install this unit correctly, have it installed by a qualified technician.

Note:
This unit is designed to operate only on **12 volts DC, NEGATIVE ground electrical systems**. If your vehicle does not have this system, a voltage inverter is required, which can be purchased at JVC car audio dealers.

- Replace the fuse with one of the specified rating. If the fuse blows frequently, consult your JVC car audio dealer.
- If noise is a problem...
  This unit incorporates a noise filter in the power circuit. However, with some vehicles, clicking or other unwanted noise may occur. If this happens, connect the unit's **rear ground terminal** (See connection diagram below.) to the car's chassis using shorter and thicker cords, such as copper braiding or gauge wire. If noise still persists, consult your JVC car audio dealer.
- Maximum input of the speakers should be more than 35 watts at the rear and 35 watts at the front, with an impedance of **4 to 8 ohms**.
- **Be sure to ground this unit to the car's chassis.**
- The heat sink becomes very hot after use. Be careful not to touch it when removing this unit.

Heat sink
Sumidero térmico
Dissipateur de chaleur



ESPAÑOL

CONEXIONES ELECTRICAS

Para evitar cortocircuitos, recomendamos que desconecte el terminal negativo de la batería y que efectue todas las conexiones eléctricas antes de instalar la unidad. Si usted no está seguro de cómo instalar correctamente la unidad, hágala instalar por un técnico cualificado.

Nota:
Esta unidad está diseñada para funcionar con **12 voltios de CC, con sistemas eléctricos de masa NEGATIVA** solamente. Si su vehículo no posee este sistema, será necesario un inversor de tensión, que puede ser adquirido en los concesionarios de JVC de equipos de audio para automóviles.

- Reemplace el fusible por uno con la corriente especificada. Si el fusible se quemase frecuentemente consulte con su concesionario de JVC de equipos de audio para automóviles.
- Si el ruido fuese un problema...
  Esta unidad tiene un filtro de ruido en el circuito de alimentación. Sin embargo, en algunos vehículos, pueden producirse chasquidos u otros ruidos indeseados. En tal caso conecte el **terminal de tierra posterior** (Ver diagrama de conexión abajo.) del receptor al chasis del automóvil, utilizando cordones más gruesos y cortos tales como alambre de cobre trenzado o de grueso calibre. Si el ruido persiste, consulte a su concesionario de JVC de equipos de audio para automóvil.
- La entrada máxima de los altavoces traseros debe ser mayor de 35 vatios y la de los delanteros de 35 vatios, con una impedancia de **4 a 8 ohmnios**.
- **Asegúrese de conectar esta unidad a tierra en el chasis del automóvil.**
- El sumidero térmico estará muy caliente después del uso. Asegúrese de no tocarlo al desmontar esta unidad.

FRANÇAIS

RACCORDEMENTS ELECTRIQUES

Pour éviter tout court-circuit, nous vous recommandons de débrancher la borne négative de la batterie et d'effectuer tous les raccordements électriques avant d'installer l'appareil. Si l'on n'est pas sûr de pouvoir installer correctement cet appareil, le faire installer par un technicien qualifié.

Remarque:
Cet appareil est conçu pour fonctionner sur des sources de courant continu de **12 volts à masse NEGATIVE** *seulement. Si votre véhicule n'offre pas ce type d'alimentation, il vous faut un convertisseur de tension, que vous pouvez acheter chez un revendeur d'autoradios JVC.*

- *Remplacer le fusible par un de la valeur précisée. Si le fusible saute souvent, consulter votre revendeur d'autoradios JVC.*
- *S'il y a des problèmes de bruit...*
  Cet appareil incorpore un filtre de bruit dans le circuit d'alimentation. Cependant, avec certains véhicules, quelques claquements ou autres bruits non désirés risquent de se produire. Si cela arrive, raccorder la **borne de masse arrière** *de l'appareil au châssis de la voiture (voir le schéma de raccordement ci-dessous) en utilisant des cordons les plus gros et les plus courts possibles telle qu'une barre de cuivre ou une tresse. Si le bruit persiste, consulter votre revendeur d'autoradios JVC.*
- *La puissance admissible des haut-parleurs doit être supérieure à 35 watts à l'arrière et à 35 watts l'avant, avec une impédance de* **4 à 8 ohms**.
- **S'assurer de raccorder la mise à la masse de cet appareil au châssis de la voiture.**
- *Le radiateur devient très chaud après usage. Faire attention de ne pas le toucher en retirant cet appareil.*

A Typical Connections / Conexiones típicas / Raccordements typiques

Before connecting: Check the wiring in the vehicle carefully. Incorrect connection may cause a serious damage to this unit.

1 Connect the colored leads of the power cord to the car battery, speakers and automatic antenna (if any) in the following sequence.
   1. Black: ground
   2. Yellow: to car battery (constant 12V)
   3. Red: to an accessory terminal
   4. Others (except blue with white stripe): to speakers
   5. Blue with white stripe: to automatic antenna

2 Connect the antenna cord.

3 Finally connect the wiring harness to the unit.

Antes de la conexión: Verifique atentamente el conexionado del vehículo. Una conexión incorrecta podría producir daños graves en la unidad.

1 Conecte los conductores de color del cable de alimentación a la batería del automóvil, altavoces y antena automática (si la hubiere) en la secuencia siguiente.
   1. Negro: a tierra.
   2. Amarillo: a la batería del automóvil (12V constantes)
   3. Rojo: a un terminal de accesorio
   4. Otros, excepto azul con rayas blancas: a los altavoces
   5. Azul con rayas blancas: a la antena automática

2 Conecte el cable de antena.

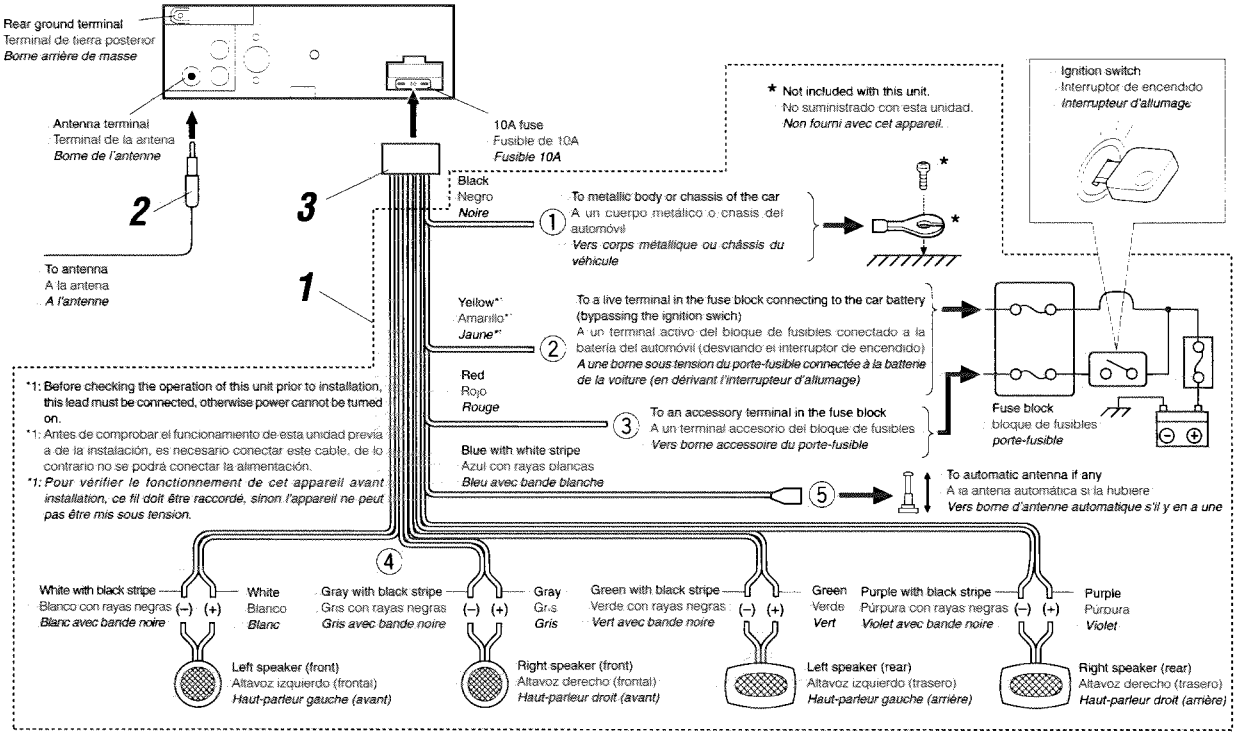
3 Por último, conecte a la unidad el cableado preformado.

Avant de commencer la connexion: *vérifiez attentivement le câblage du véhicule. Une connexion incorrecte peut endommager sérieusement l'appareil.*

1 *Connectez les fils de couleur du cordon d'alimentation à la batterie de la voiture, aux enceintes et à l'antenne automatique (s'il y en a une) dans l'ordre suivant.*
   1. *Noir: a la masse*
   2. *Jaune: a la batterie de la voiture (12V constant)*
   3. *Rouge: à la prise accessoire*
   4. *Autres fils à l'exception du fil bleu à bandes blanches: aux enceintes*
   5. *Bleu à bandes blanches: à l'antenne automatique*

2 *Connectez le cordon d'antenne.*

3 *Finalement, connectez le faisceau de fils à l'appareil.*


Rear ground terminal
Terminal de tierra posterior
Borne arrière de masse
Antenna terminal
Terminal de la antena
Borne de l'antenne
To antenna
A la antena
A l'antenne
10A fuse
Fusible de 10A
Fusible 10A
* Not included with this unit.
No suministrado con esta unidad.
Non fourni avec cet appareil.
Ignition switch
Interruptor de encendido
Interrupteur d'allumage
Black
Negro
Noire
To metallic body or chassis of the car
A un cuerpo metálico o chasis del automóvil
Vers corps métallique ou châssis du véhicule
Yellow*1
Amarillo*1
Jaune*1
To a live terminal in the fuse block connecting to the car battery (bypassing the ignition swich)
A un terminal activo del bloque de fusibles conectado a la batería del automóvil (desviando el interruptor de encendido)
A une borne sous tension du porte-fusible connectée à la batterie de la voiture (en dérivant l'interrupteur d'allumage)
Red
Rojo
Rouge
To an accessory terminal in the fuse block
A un terminal accesorio del bloque de fusibles
Vers borne accessoire du porte-fusible
Fuse block
bloque de fusibles
porte-fusible
Blue with white stripe
Azul con rayas blancas
Bleu avec bande blanche
To automatic antenna if any
A la antena automática si la hubiere
Vers borne d'antenne automatique s'il y en a une
*1: Before checking the operation of this unit prior to installation, this lead must be connected, otherwise power cannot be turned on.
*1: Antes de comprobar el funcionamiento de esta unidad previa a de la instalación, es necesario conectar este cable, de lo contrario no se podrá conectar la alimentación.
*1: Pour vérifier le fonctionnement de cet appareil avant installation, ce fil doit être raccordé, sinon l'appareil ne peut pas être mis sous tension.
White with black stripe
Blanco con rayas negras
Blanc avec bande noire
White
Blanco
Blanc
Gray with black stripe
Gris con rayas negras
Gris avec bande noire
Gray
Gris
Gris
Green with black stripe
Verde con rayas negras
Vert avec bande noire
Green
Verde
Vert
Purple with black stripe
Púrpura con rayas negras
Violet avec bande noire
Purple
Púrpura
Violet
(–) (+)
Left speaker (front)
Altavoz izquierdo (frontal)
Haut-parleur gauche (avant)
Right speaker (front)
Altavoz derecho (frontal)
Haut-parleur droit (avant)
Left speaker (rear)
Altavoz izquierdo (trasero)
Haut-parleur gauche (arrière)
Right speaker (rear)
Altavoz derecho (trasero)
Haut-parleur droit (arrière)

<< MEMO >>

Location of main parts

Main board ass'y

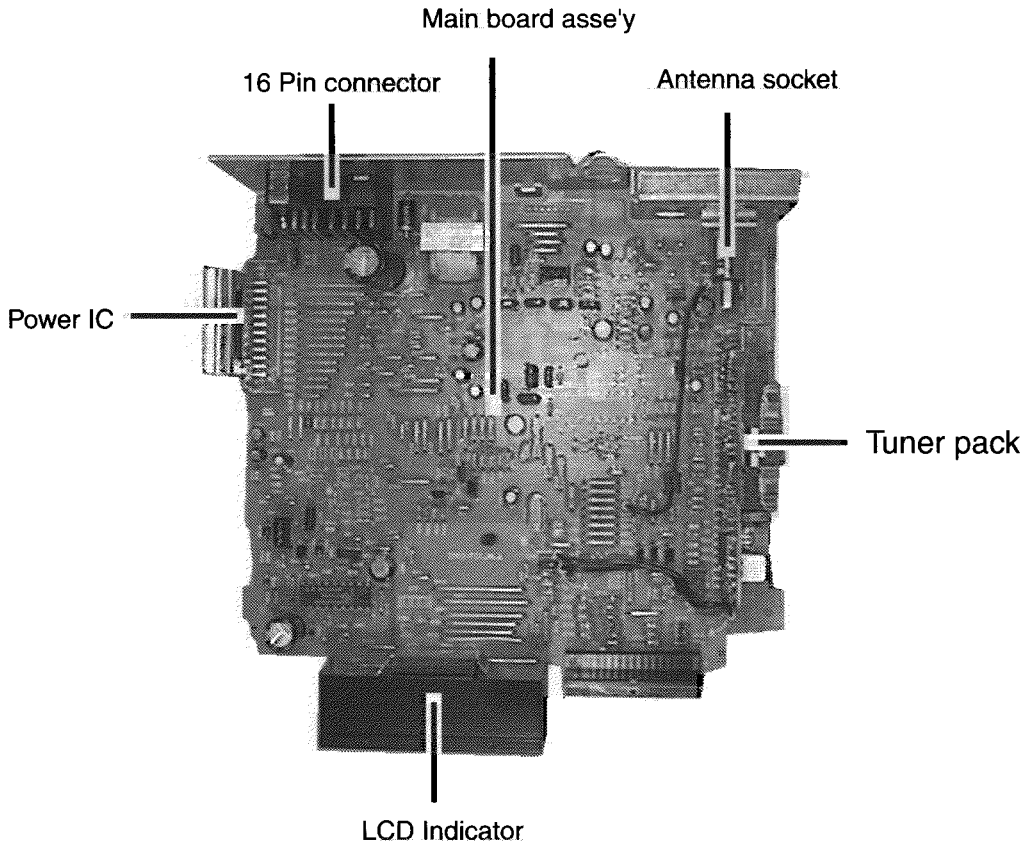


Fig. 1-1

Cassette Mechanism ass'y

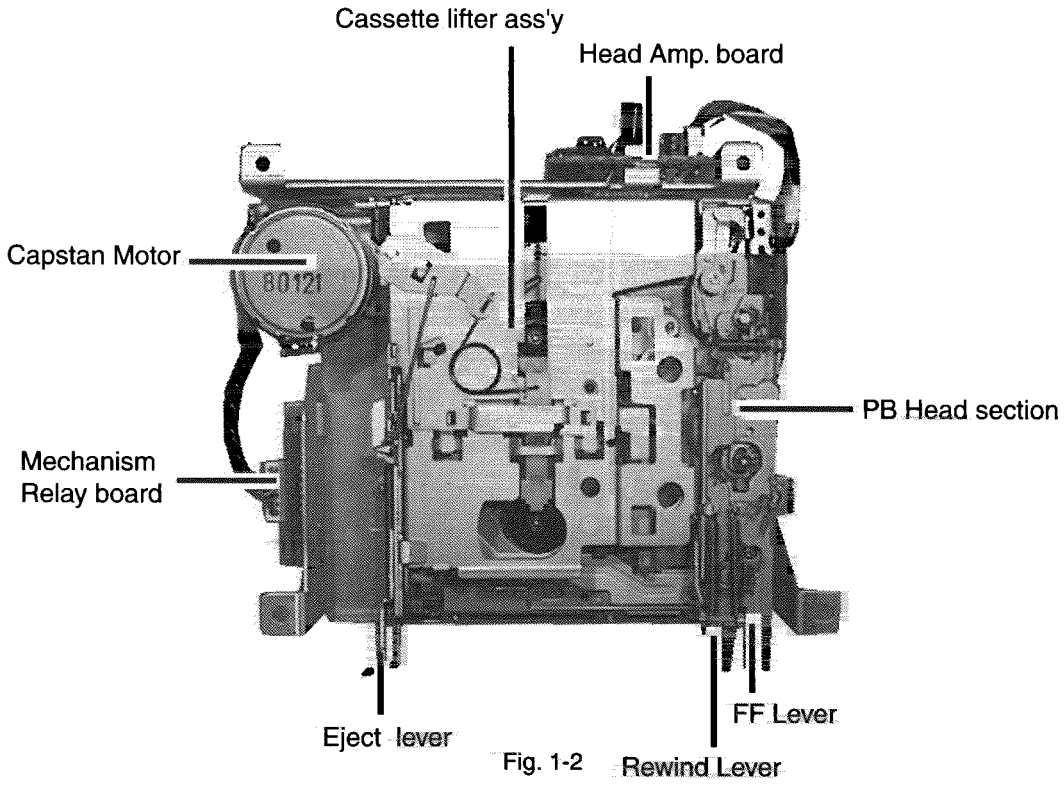


Fig. 1-2

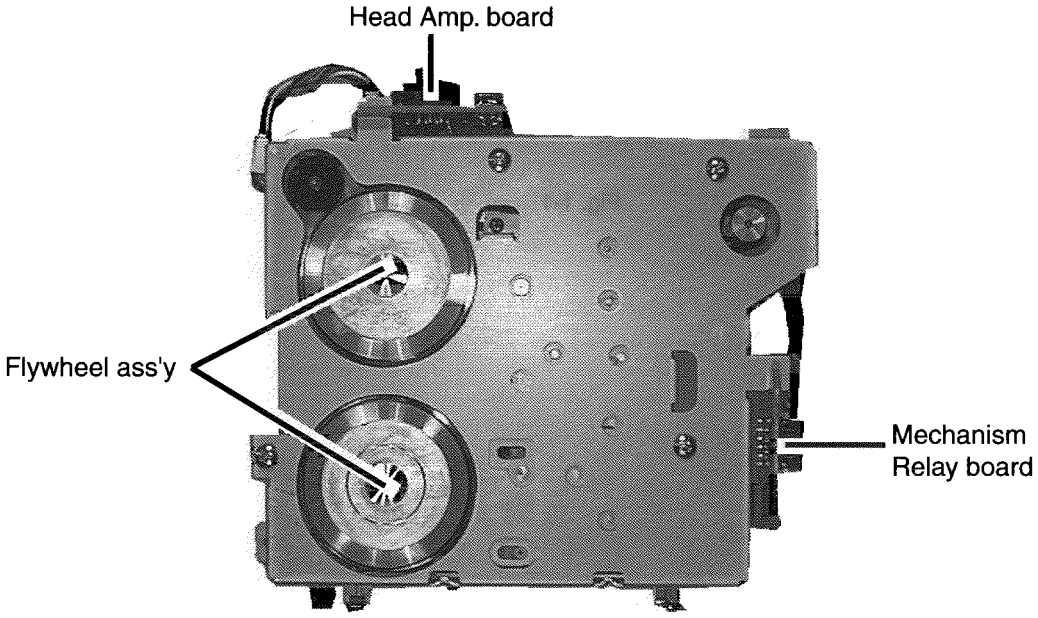


Fig. 1-3

Removal of Main Parts

<Enclosure assembly Sections>

■ Detaching the front panel unit

(See Fig. 1)

Slide the Release switch in the direction of arrow to detach the front panel unit.

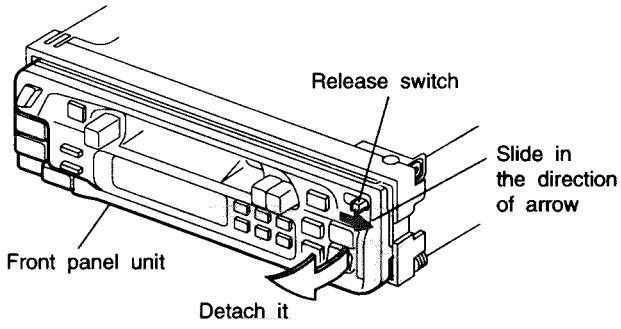


Fig. 1

■ Removing the front chassis

(See Fig. 2, 3)

1. Remove two ribs in the right side of unit.
2. Remove two ribs in the left side of unit and pull the front chassis forward to remove it.

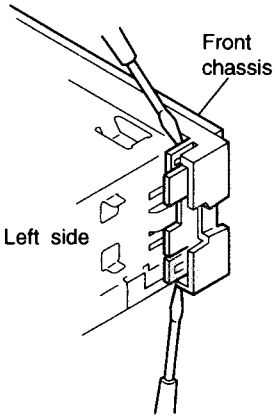


Fig. 2

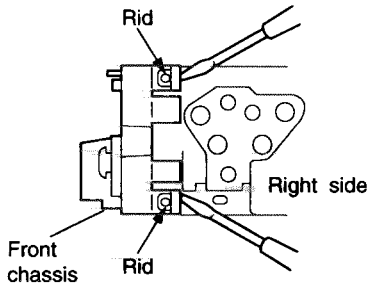


Fig. 3

■ Removing the heat sink (See Fig. 4)

1. Turn the left side unit.
2. Remove three screws ① retaining the heat sink.

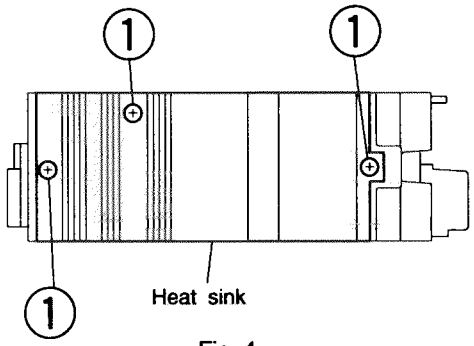


Fig. 4

■ Removing the bottom cover

(See Fig. 5)

Turn the unit upside down then insert and turn the screw driver to remove the bottom cover.

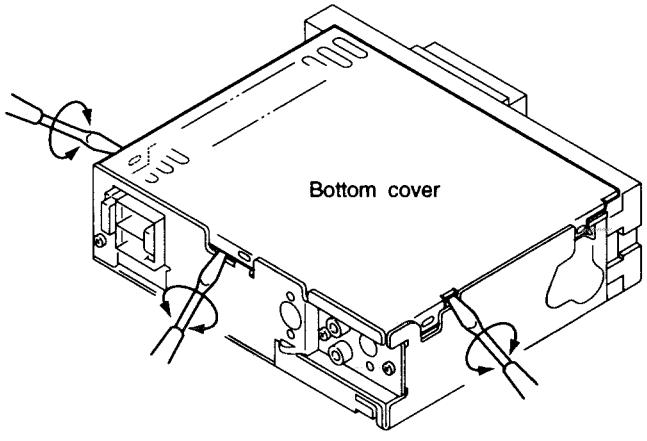


Fig. 5

■ **Removing the main board**
(See Fig. 6, 7)

1. Remove two screws ② retaining the main board.
2. Turn the back side unit.
3. Remove two screws ③ rataining the rear bracket.
4. Lift up the main board to remove it, at this time remove the connectors CN901 and CN 721 connecting the main board and cassette mechanism assembly.

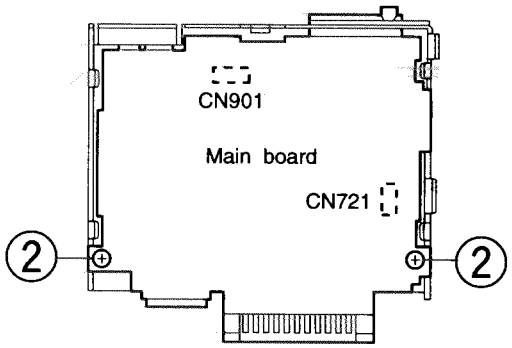


Fig. 6

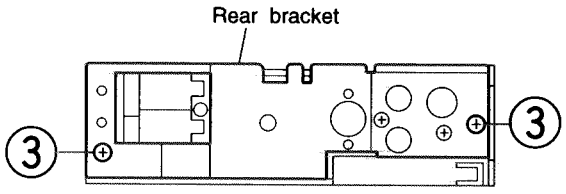


Fig. 7

■ **Removing the cassette mechanism assembly (See Fig. 8)**

Remove four screws ④ retaining the Cassette mechanism assembly from the top chassis.

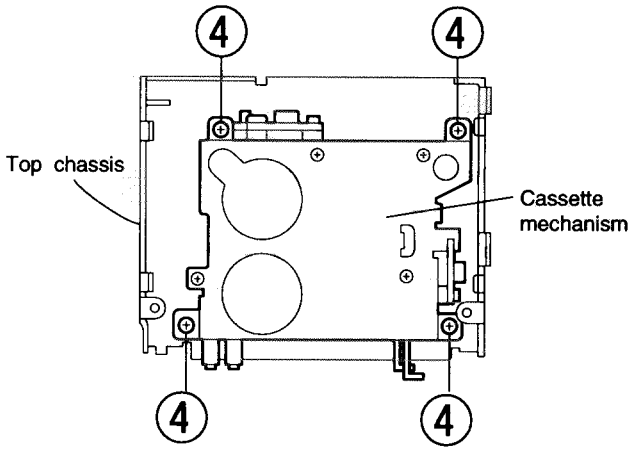


Fig. 8

■ **Removing the operation switch board**
(See Fig. 9, 10)

1. Turn the front panel unit upside down then.
2. Remove eight screws ⑤ retaining the rear cover.
3. Take the operation switch 1 and 2 board off on the front panel.

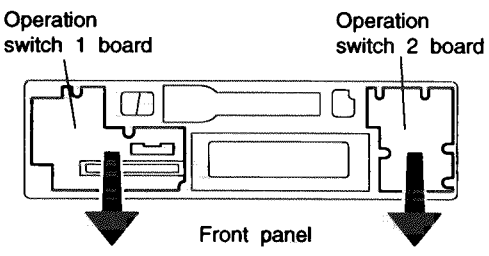


Fig. 10

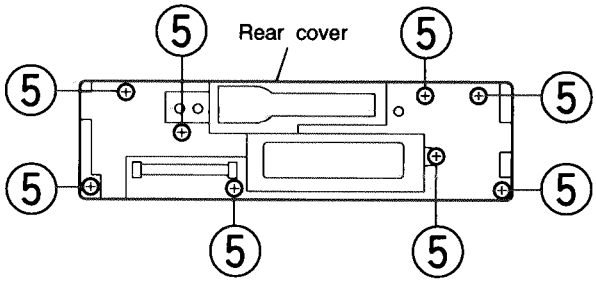


Fig. 9

■ Cassette mechanism disassembling method

☆ Remove the cassette housing unit and button lever unit when you need to replace or adjust heads.

☆ The capstan belt (main belt) can be replaced directly.

☆ To change the sub-belt, remove the three screws and loosen one screw. Then raise the belt side of the reel base assembly slightly.

◆ Cassette housing unit (See Fig. 11 ~ 14)

1. From the rear of the unit, bend the cassette hanger and chassis claws ⓐ , ⓑ outwards.
2. While pressing the eject lever, remove the cassette housing unit.
3. Remove the return link from the center plate of the cassette hanger.

※ The reel disk and capstan can now be replaced.

O Remove the C washer at the top of the reel disk to remove the disk. (Replace with a new C washer after repairing.)

O To replace the flywheel capstan, remove the E washer in the pinch roller section. Remove the main belt of the flywheel beforehand.

★ Cassette housing assembling method

1. Set the return link.
2. Install the cassette housing unit on the chassis.

O While pressing the lever, assemble in the order shown below.

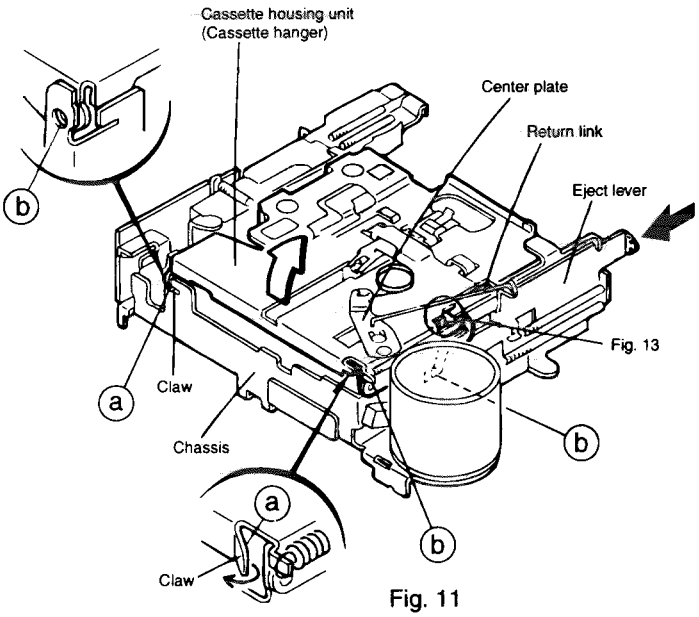


Fig. 11

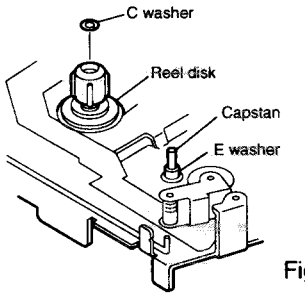


Fig. 12

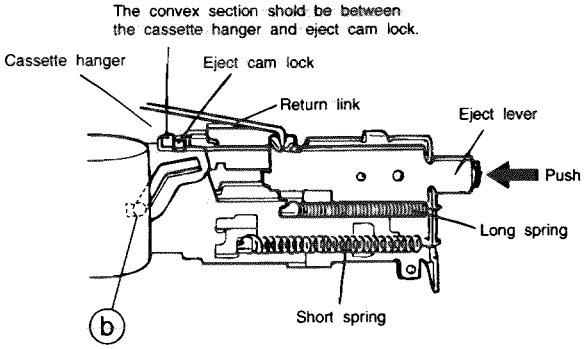


Fig. 13

◆ Button lever assembling (See Fig. 14)

1. From the rear of the unit, remove the button lever mounting screw ① .
2. From the upper part of the button lever, remove the mounting screw ② . The screw cannot be taken out.
3. From the front, move the button lever upwards and pull it slightly to the front.

★ Assembling

1. Assemble the button lever and the rear section ⓒ .
2. Assemble the pinch roller shaft ⓓ , stud ⓔ and rod ⓕ .

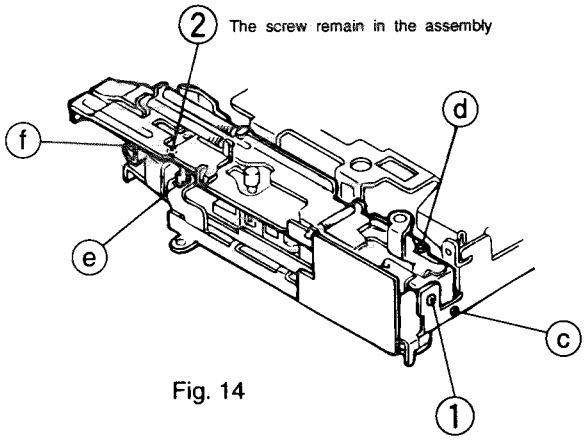


Fig. 14

◆ Replacing the head/pinch roller assembly.

O Pinch roller. (See Fig. 15)

1. Remove the E washer ③ on the pinch roller shaft.
2. Remove the pinch roller spring from the chassis and pull out the pinch roller assembly.

O Head assembly. (See Fig. 15)

1. Remove the head mounting screw ④ .
2. Remove the C washer ⑤ to pull out the collar.
3. Remove the plate to remove the springs and head. (The left and right springs are different.)

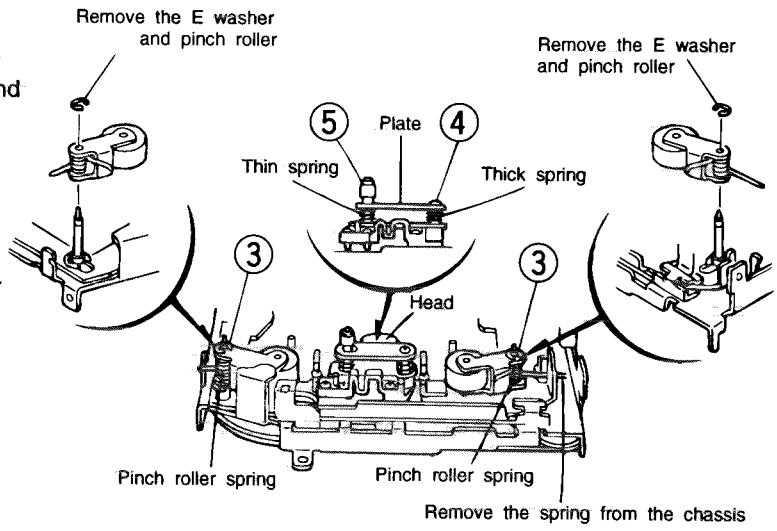


Fig. 15

◆ Motor (See Fig. 16)

1. Remove the main belt (capstan belt)/sub- belt.
2. Remove two motor mounting screws ⑥ .

★ Sub-belt changing method.

1. Remove the main belt.
2. Remove the sub-belt from the motor pulley.
3. Remove three reel base unit mounting screws ⑦ and loosen one ⑧ .
4. Lift up the reel base slightly to change the belt.

◆ Reel base unit (See Fig. 16, 17)

1. Remove select link B rod at the top front by turning the rod near the pinch roller as shown in the figure.
2. Remove four reel base unit mounting screws ⑦ and ⑧ .
3. Remove the reel base unit carefully. (Note: service for the reel base unit is not available.)

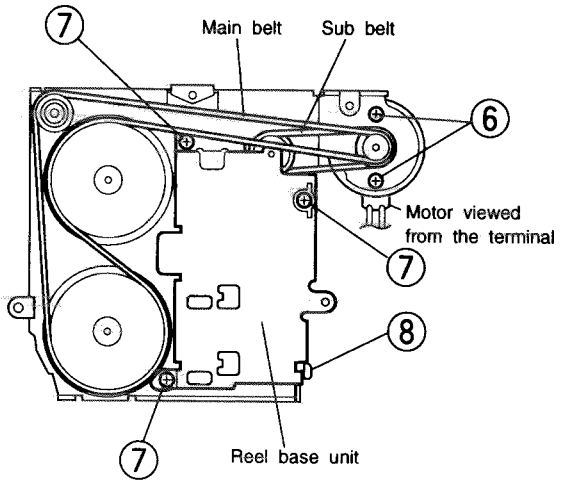


Fig. 16

Inside view of the reel base unit

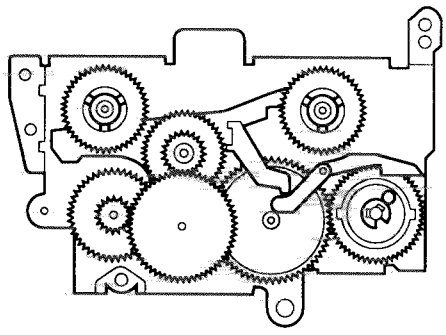


Fig. 18

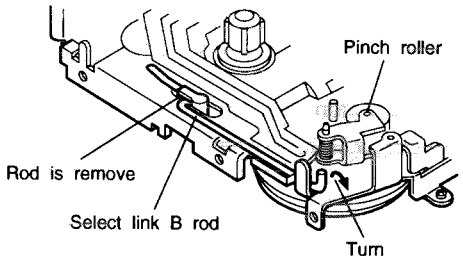


Fig. 17

Main adjustment

■ Test Instruments reqired for adjustment

1. Digital oscilloscope (100 MHz)
2. AM Standard signal generater
3. FM Standard signal generater
4. Stereo modulator
5. Electric voltmeter
6. Digital tester
7. Tracking offset meter
8. Pulse jitter meter
9. Test Tapes
   - VT721 ..... For Output level measurement
   - VT724 ..... For DOLBY lever measurement
   - VT739 ..... For playback frequency measurement
   - VT712 ..... For wow flutter & tape speed measurement
   - VT703 ..... For head azimuth measurement
10. Torque gauge ..... Cassette type for CTG-N
    (mechanism adjustment)
    TW-2111A (FWD PLAY)
    TW-2121A (REV PLAY)

■ Measuring conditions (Amplifier section)

Power supply voltage ..... DC14.4V (10.5 ~ 16V)
Load impedance ..... 4 Ω (4 Speakers connection)
Line out ..... 20k Ω

● **Standard volume position**

Balance and Bass & Treble volume: Indication "0".
Loudness : Off

■ How to connection for extension cords

Setting of referance frequency of SSG

AM mode : 1000kHz/62dB, INT/400Hz, 30% modulation signal on (J version).
AM mode : 999kHz/62dB, INT/400Hz, 30% modulation signal on (E/G version).
FM mono mode : 97.9MHz/66dB, INT/400Hz, 22.5kHz deviation pilot off mono
FM stereo mode ..... 1kHz, 67.5kHz dev., pilot 7.5kHz dev.
Output level ..... 0dB (1 μ V, 50 Ω /open terminal)

■ Tuner section

Band Step

FM : 200kHz step
FM : 100kHz (Seek), 50kHz (Manual)
AM : 10kHz step (J version), 9kHz step (E/G version)
AM :

Dummy load

Exclusive dummy load should be used for AM, and FM. For FM dummy load, there is a loss of 6dB between SSG output and antenna input. The loss of 6dB need not be considered since direct reading of figures are applied in this working standard.

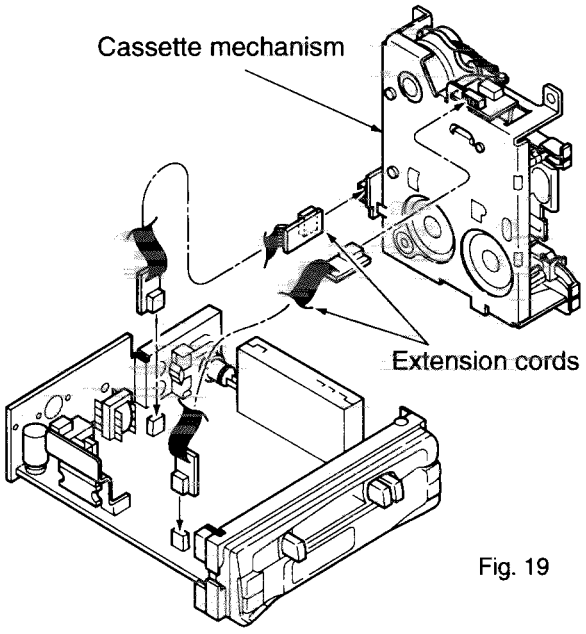


Fig. 19

■ Arrangement of Adjusting Point

● Cassette mechanism (Capstan motor & Playback head view)

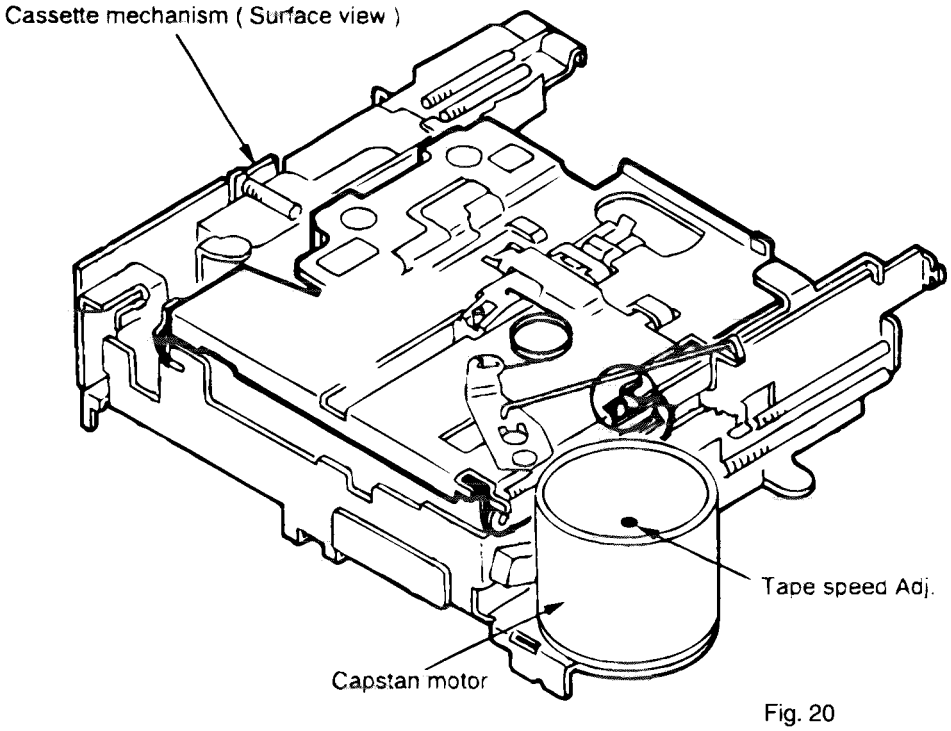


Fig. 20

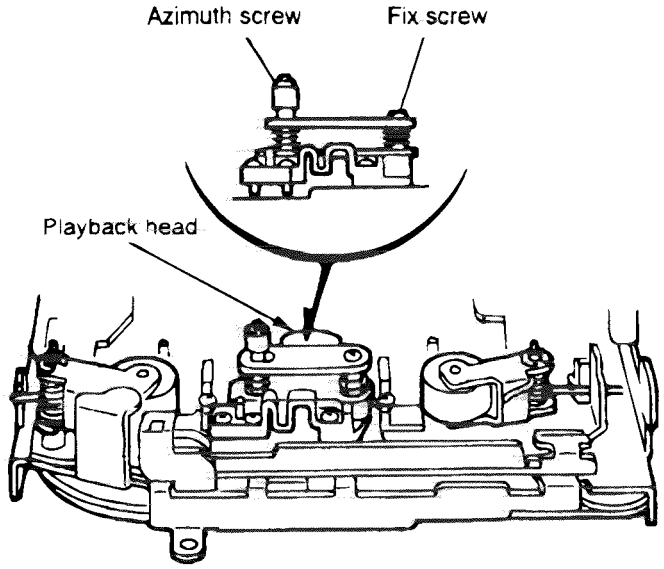
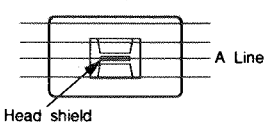
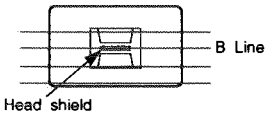
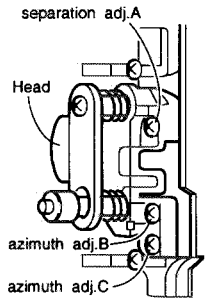
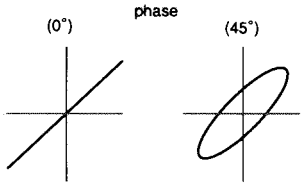


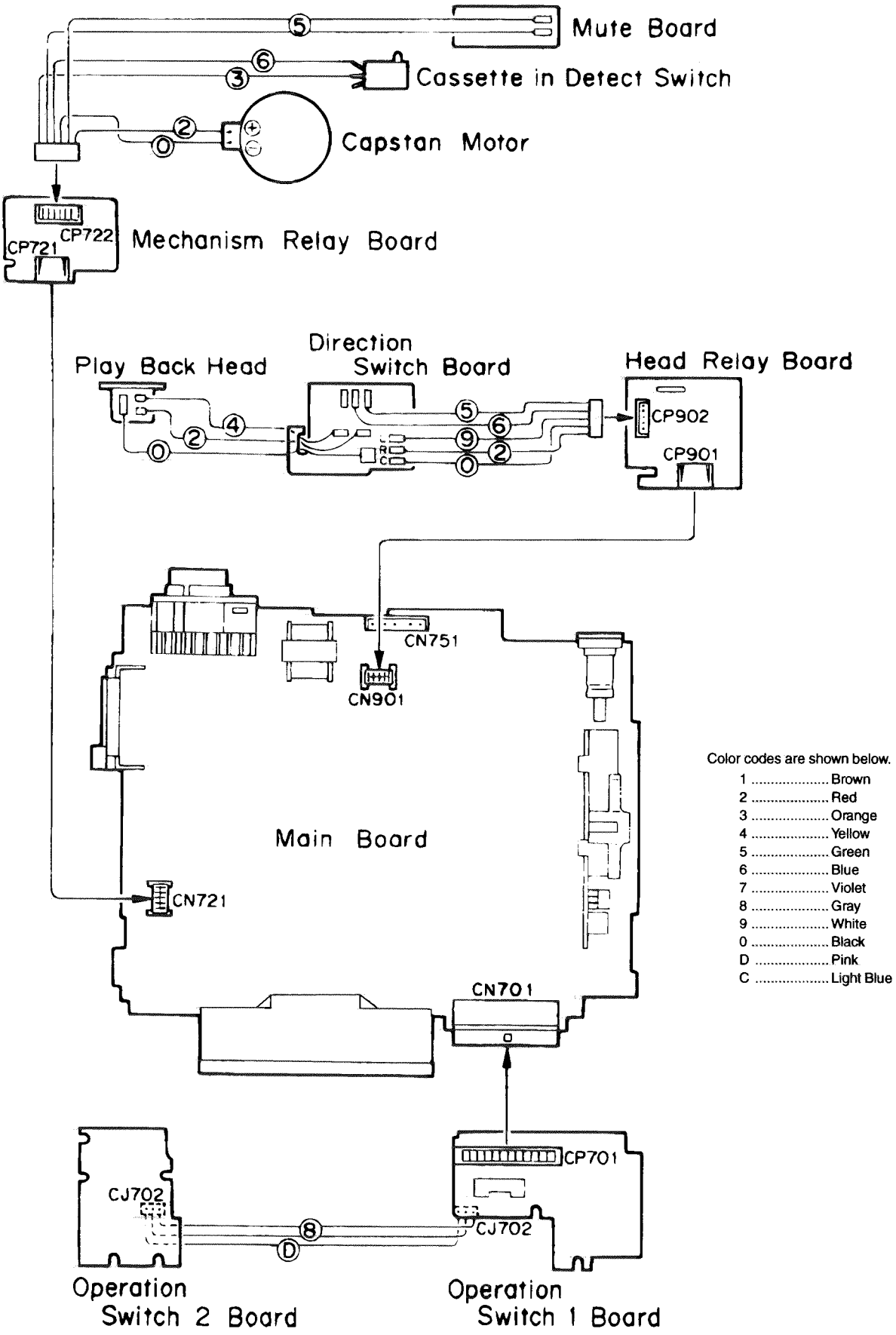
Fig. 21

■ Cassette Mechanism & Amplifier Section

Item	Conditions	Adjustment and Confirmation methods	S. Values	Adjust
1. Head azimuth adjustment	Test tape: Mirror tape SCC-1659 VT703 (10kHz) VT724 VT721	◆ Head height adjustment ※ Adjust the azimuth directly. When you adjust the height using a mirror tape, remove the cassette housing from the mechanism chassis. After installing the cassette housing, perform the azimuth adjustment. 1. Load the SCC-1659 mirror tape. Adjust with height adjustment screw A and azimuth adjustment screw B so that line A of the mirror tape runs in the center between Lch and Rch in the reverse play mode. 2. After switching from REV to FWD then to REV, check that the head position set in procedure 1 is not changed. (If the position has shifted, adjust again and check.) 3. Adjust with azimuth adjustment screw B so that line B of the mirror tape runs in the center between Lch and Rch in the forward play mode. ◆ Head azimuth adjustment 1. Load VTT724 (VT724) (1 kHz) and play it back in the reverse play mode. Set the Rch output level to max. 2. Load VTT703 (VT703) (10 kHz) and play it back in the forward play mode. Adjust the Rch and Lch output levels to max, with azimuth adjustment screw B. In this case, the phase difference should be within 45 ° 3. Engage the reverse mode and adjust the output level to max, with azimuth adjustment screw C. (The phase difference should be 45 ° or more.) 4. When switching between forward and reverse modes, the difference between channels should be within 3 dB. (Between FWD L and R, REV L and R) 5. When VTT721 (VT721) (315 Hz) is played back, the level difference between channels should be within1.5 dB.	 The head is at low position during FWD.  The head is at high position during REV. Output level: Maximum  	
2. Tape speed and wow flutter confirmation	Test tape: VT712 (3kHz)	1. Check to see if the reading of the F, counter/ wow flutter meter is within 2940 ~ 3090 (FWD/REV), and less than 0.35% (JIS RMS). 2. In case of out of specefication, adjust the motor with a built-in volume resistor.	Tape speed: 2940 ~ 3090Hz Wow & flutter: less than 0.35%	Built-in volume resistor
3. Playback frequency response confirmation	Test tape: VT724 (1kHz) VT739 (125Hz/1kHz/ 8kHz)	1. Play test tape VT724, and set the volume position at 2 V. 2. Play test tape VT739 and confirm 1kHz/ 8kHz: 0 ± 3dB. 1kHz/125Hz: — 4 ~ +2dB. 3. When 8 kHz is out of specification, it will be nesessary to read adjust the azimuth.	Speaker out 1kHz/125Hz :— 4+2dB 1kHz/8Hz : 0 ± 3dB	

Item	Conditions	Adjustment and Confirmation methods	S. Values	Adjust
4. Maximum out put power comfirmation	Test tape: VT721 (1kHz) volume: maximum BASS/TRE: center	1. Confirm the rear output be more than 4.5V (5W). (4-peaker connected) 2. Confirm that consumption current at above condition to be less than 10A. 3. Sound leakage should not occur at volume minimum. 4. Oscillation should not occur at BASS/TRE at maximum.	Output level: more than 5W (4.5V) Consumption current: less than 10A	
5. Line out level comfirmation	Test tape: VT721 (1kHz) Test point :Line out (Load 20k Ω)	1. Comfirm the line out level to be within 1.1 ~ 1.9V.	Line out level 1.1 ~ 1. 9V	

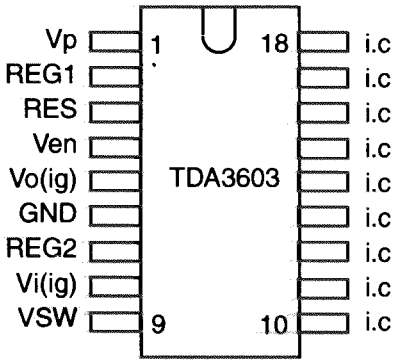
Wiring Connections

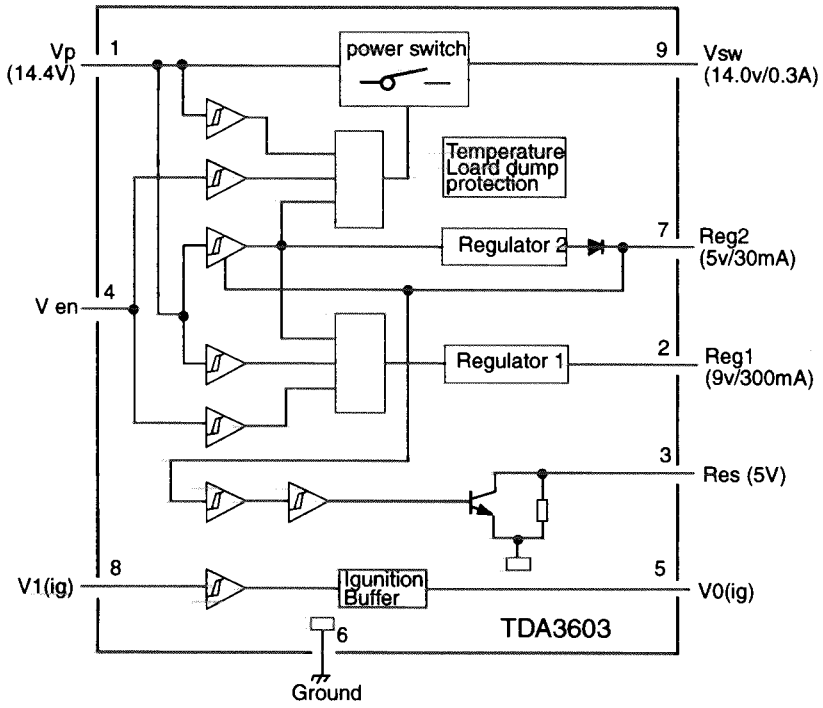


Color codes are shown below.

1	Brown
2	Red
3	Orange
4	Yellow
5	Green
6	Blue
7	Violet
8	Gray
9	White
0	Black
D	Pink
C	Light Blue

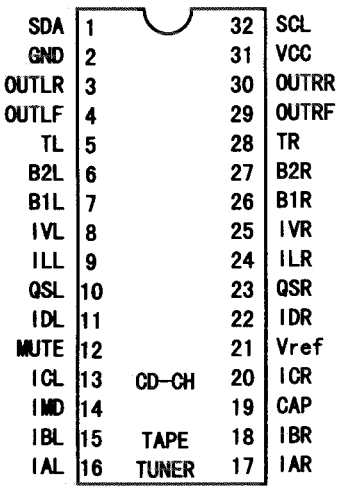
IC801:TDA3603P (REGULATOR)



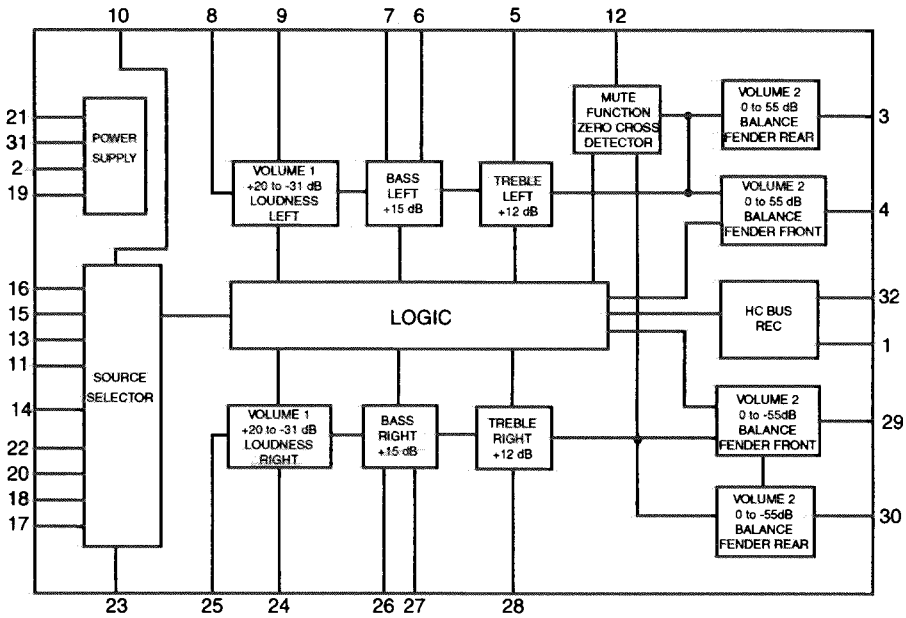


IC921:TEA6320T(E.VOLUME)

1.Terminal Layout



2.Block Diagram

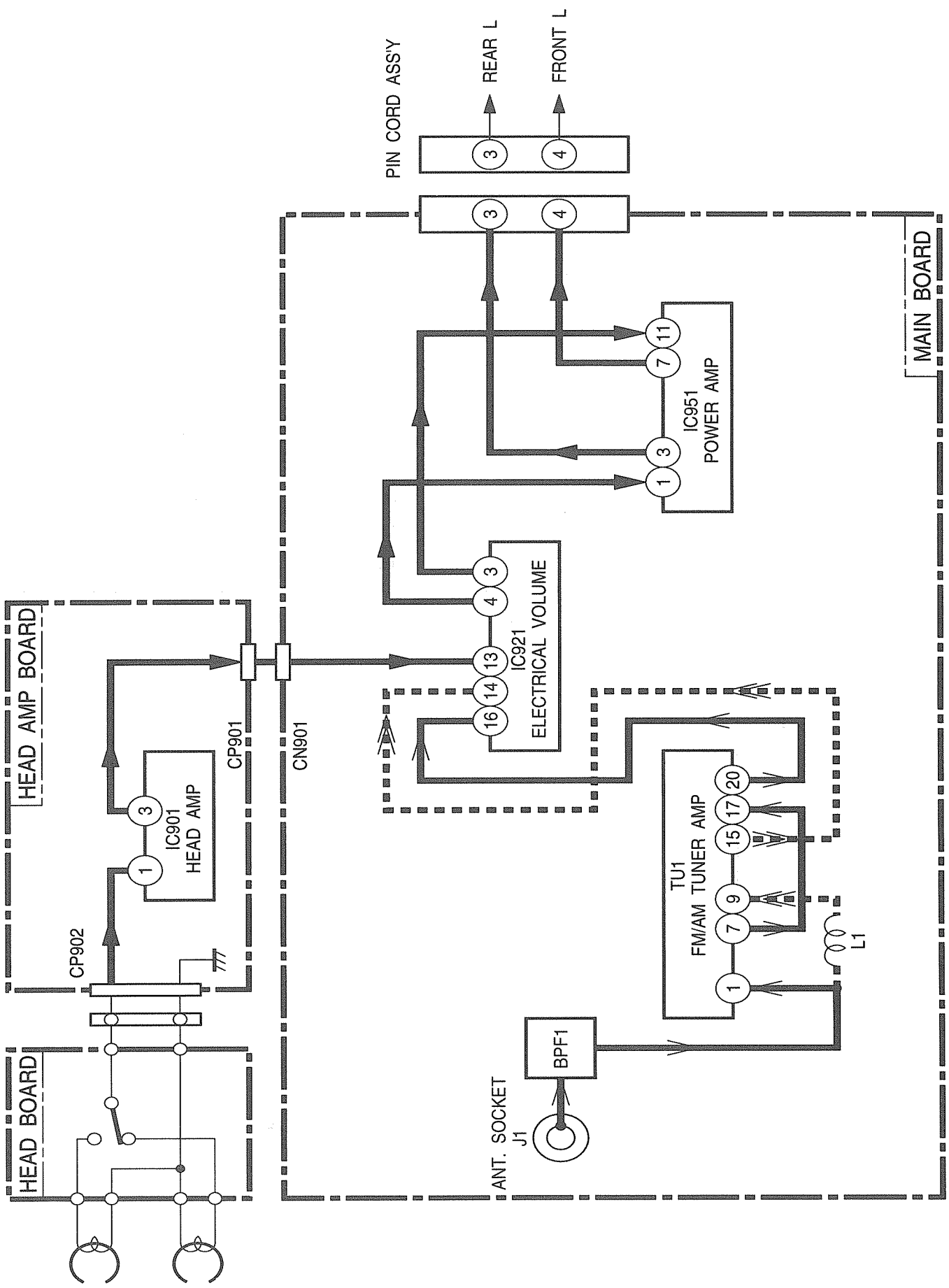


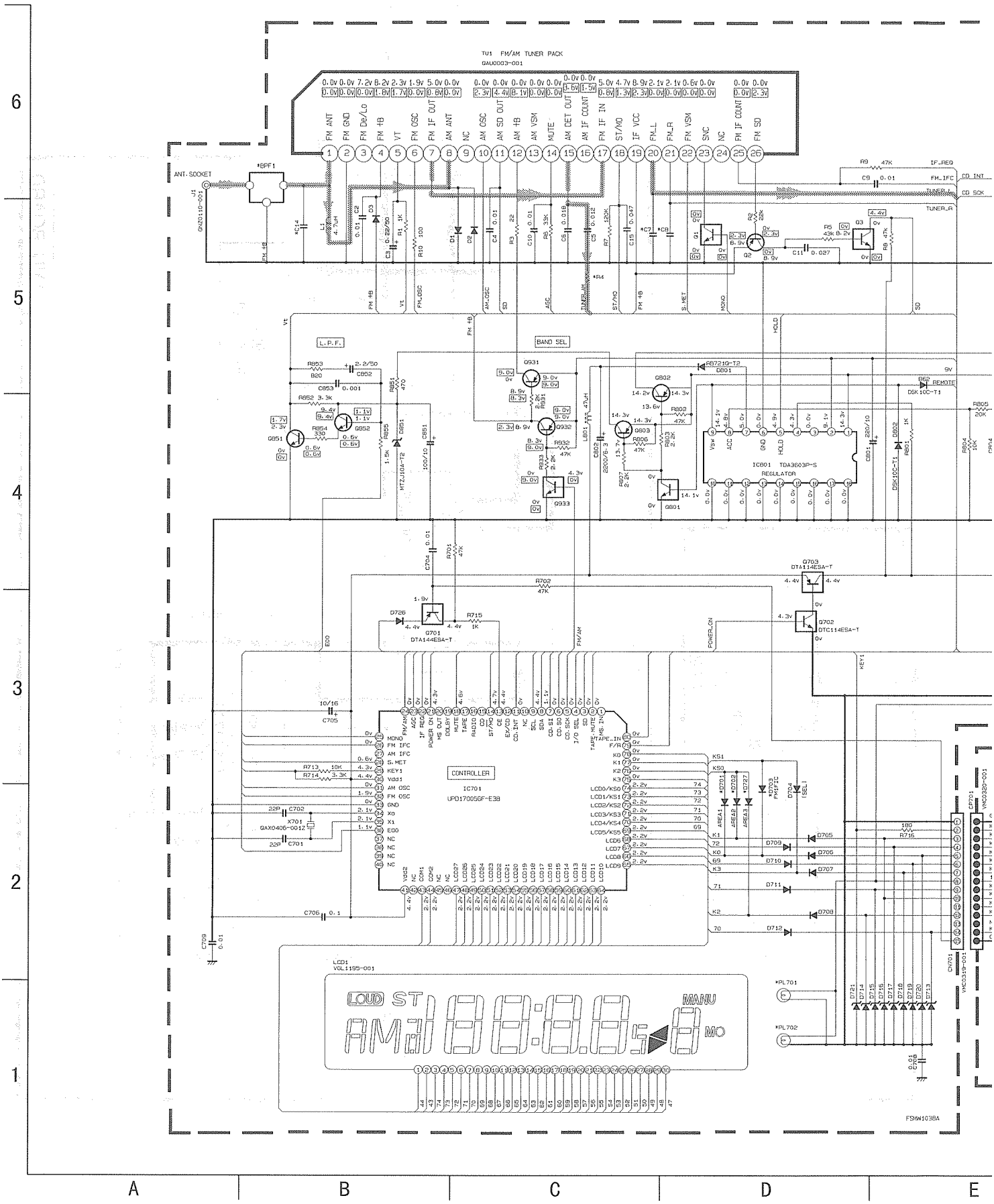
IC701 : uPC17005GF (CPU controller)

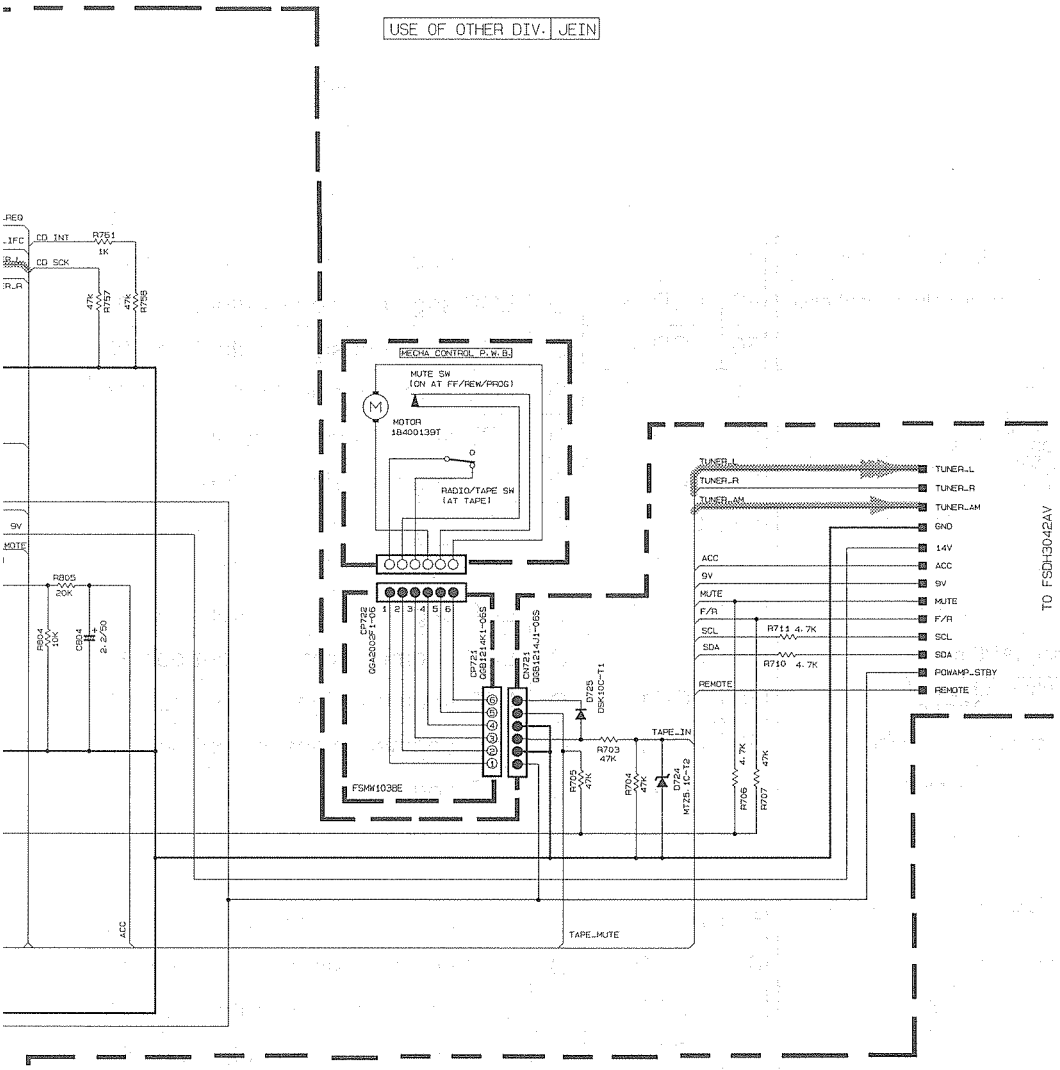
Pin No.	Symbol	I/O	Functions
1	MSIM	I	During a song play ,input: During mute gap bettween 2 songs,input high.
2	TAPE MUTE	I	During tape muting input low
3	SD	I	When receiving a broadcasting processor, input high>
4	I/OSEL	O	Communication Between micro processor and CD mechanism
5	CDSCK	O	J bus clock output
6	CDSO	O	J bus data output
7	CDSI	I	J bus data input
8	SDA	O	Output data to electronics volume controller
9	SCL	O	output clock to electronics volume controller
10	NC	O	Non connection
11	CDINT	I	J bus interrupt signal
12	EX/CD	I	H:"KS3, K23" as "EX"key L :"KS3, k23" as "CD" key
13	CE	I	For device operation selection and reset signal input (low to high)
14	ST	I	When receiving ST signal, input low
15	CD	O	Output high during CD mode
16	RADIO	O	Output high during RADIO mode
17	TAPE	O	Output high during TAPE mode
18	MUTE	O	Audio mute output,H:Mute off L:Mute on
19	DOLBY	O	H:DOLBY mode on,L:DOLBY mode off
20	MSOUT	O	Output low during tape MS mode
21	POWER ON	O	When power on output high
22	IEREO	O	During seek,output high id SD signal is detected
23	AGC	O	During AM seek, AGC(Auto gain control) output high
24	FM/AM	O	H: FM band, L: am band
25	MONO	O	In FM mono mode output high
26	FMIFC	I	FM IF counter input port (IF range +-20kHz)
27	AMIFC	I	AM IF counter input port (IF range +-4kHz)
28	SMET (SMIN)	I	SM signal strrength input:During SSM mode used to select station Which have stronger signal
29	KEY1	O	For detecting keys"power","sound","scan", "Vol+-"," sel" and random.
30	Vdd	I	Power supply 5V
31	AMOSC	I	Local oscillation low input for AM
32	FMOSC	I	Local oscillation low input for FM
33	GND		Ground pin of the device
34	XO	O	Oscillator connection output pin
35	XI		Oscillator connection input pin
36	EO0	O	Pll frequency synthesizer error out pin
37	NC		Non connection
38	NC		Non connection
39	NC		Non connection
40	NC		Non connection

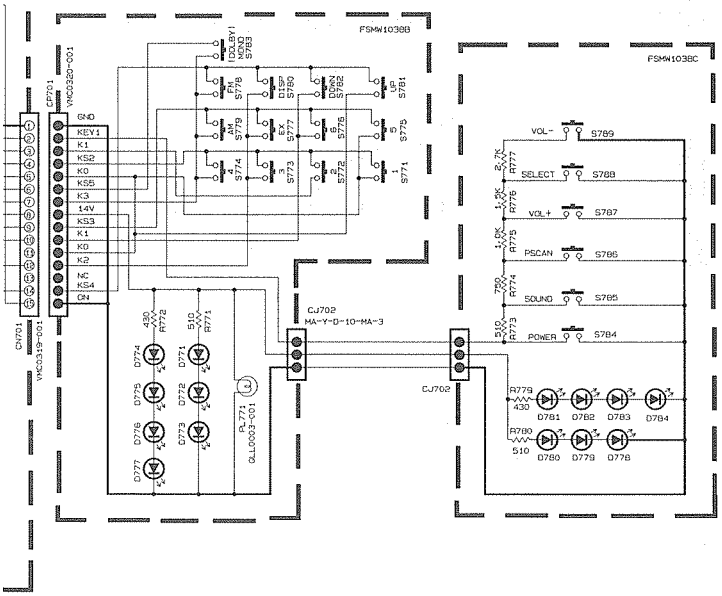
Pin No.	Symbol	I/O	Functions
41	Vdd2	I	and power supply 5V.
42	NC		Non connection
43	COM1	O	LCD common signal output port 1
44	COM2	O	Lcd common signal output port 2
45	NC		Non connection
46	NC		Non connection
47	LCD27	O	LCD segment signal output port 28
48	LCD26	O	LCD segment signal output port 27
49	LCD25	O	LCD segment signal output port 26
50	LCD24	O	LCD segment signal output port 25
51	LCD23	O	LCD segment signal output port 24
52	LCD22	O	LCD segment signal output port 23
53	LCD21	O	LCD segment signal output port 22
54	LCD20	O	LCD segment signal output port 21
55	LCD19	O	LCD segment signal output port 20
56	LCD18	O	LCD segment signal output port 19
57	LCD17	O	LCD segment signal output port 18
58	LCD16	O	LCD segment signal output port 17
59	LCD15	O	LCD segment signal output port 16
60	LCD14	O	LCD segment signal output port 15
61	LCD13	O	LCD segment signal output port 14
62	LCD12	O	LCD segment signal output port 13
63	LCD11	O	LCD segment signal output port 12
64	LCD10	O	LCD segment signal output port 11
65	LCD9	O	LCD segment signal output port 10
66	LCD8	O	LCD segment signal output port 9
67	LCD7	O	LCD segment signal output port 8
68	LCD6	O	LCD segment signal output port 7
69	LCD5/ KS5	O	LCD segment signal output port 6/key source signal output port 6(for key "up/down"clock/FM"
70	LCD4/ KS4	O	LCD segment signal output port 5/key source signal output port 5(for key "up/down"clock/FM"
71	LCD3/ KS3	O	LCD segment signal output port 4key source signal output port 4(for key "up/down"clock/FM"
72	LCD2/ KS2	O	LCD segment signal output port 3/key source signal output port 3(for key "up/down"clock/FM"
73	LCD1/ KS1	O	LCD segment signal output port 2/key source signal output port 2(for key "up/down"clock/FM"
74	LCD0/ KS0	O	LCD segment signal output port 1/key source signal output port 1(for key "up/down"clock/FM"
75	K3	I	Key input port 4
76	K2	I	Key input port 3
77	K1	I	Key input port 2
78	K0	I	Key input port 1
79	F/R	I	Tape play direction H:Fowerd,L:reverse
80	TAPE IN	I	H:tape function,L:Radio function

Block Diagram




TU1 FM/AM TUNER PACK
GAU0003-001
FM ANT
FM GND
FM DE/LO
FM +B
VT
FM OSC
FM IF OUT
AM ANT
NC
AM OSC
AM SD OUT
AM +B
AM VSM
MUTE
AM CET OUT
AM IF COUNT
FM IF IN
ST/MO
IF VCC
FM_L
FM_R
FM VSM
SNC
NC
FM IF COUNT
FM SD
ANT. SOCKET
*BPF1
IF_REQ
FM_IFC
CD INT
CD SCK
TUNER_D
TUNER_A
L.P.F.
BAND SEL
REGULATOR
IC801 TDA3603P-S
REMOTE
DSK10C-T1
CONTROLLER
IC701
UPD170056F-E3B
LCD1
VGL1195-001
LOUD
ST
MANU
MO
FS6W1038A





＊REMARKS	J	E
D701, D703, D727	NOT USED	NOT USED
D704	USED	USED
D702	NOT USED	USED
BPF1 (EQF0201-006)	NOT USED	USED
R4	56K	43K
C7, C8	0.033	0.022
RL701, RL702	GLL0002-001	GLL0003-001
C14	NOT USED	10p

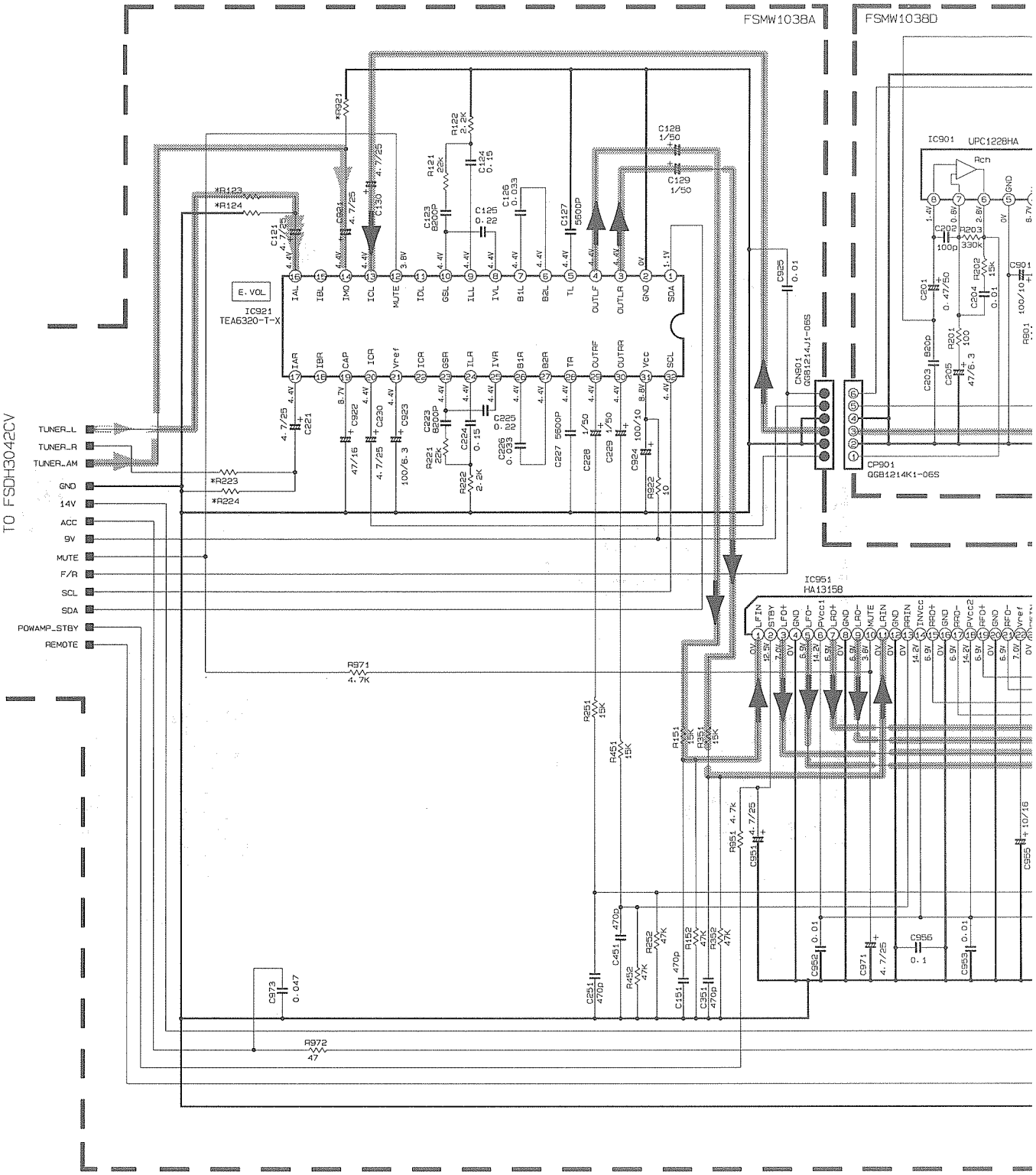
D774 ~ D784	SLR-342PCT32	SLR-342PCT32
D771, D772, D773	SLN-210PCT12	SLN-210PCT12
S771 ~ S790	QSP1A11-V15Z	QSP1A11-V15Z
D713 ~ D721	MTZJ5.6B-T2	MTZJ5.6B-T2
Q2, Q931	2SA933AS/RS/-T	2SA933AS/RS/-T
Q1, Q3, Q933, Q801	DTC114ESA-T	DTC114ESA-T
Q932, Q802, Q803	2SB1322/RS/-T	2SB1322/RS/-T
Q951, Q852	2SC1740S/RS/-T	2SC1740S/RS/-T

NOTES

1. VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER WITHOUT INPUT SIGNAL.
   CONDITION ---- FM MODE (☐ AM MODE)
2. UNLESS OTHERWISE SPECIFIED.
   ALL RESISTORS ARE 1/6W 5% CARBON RESISTOR.
   ALL CAPACITORS ARE 50V CERAMIC CAPACITOR.
   ALL RESISTANCE VALUES ARE IN OHM(Ω).
   ALL CAPACITANCE VALUES ARE IN μF(P=pF).
   ALL E.CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE(μF) / RATED VOLTAGE
   ALL DIODES ARE 1SS119-041 UNLESS OTHERWISE SPECIFIED.

AM/RADIO MAIN SIGNAL
FM RADIO SIGNAL

E | F | G | H | I

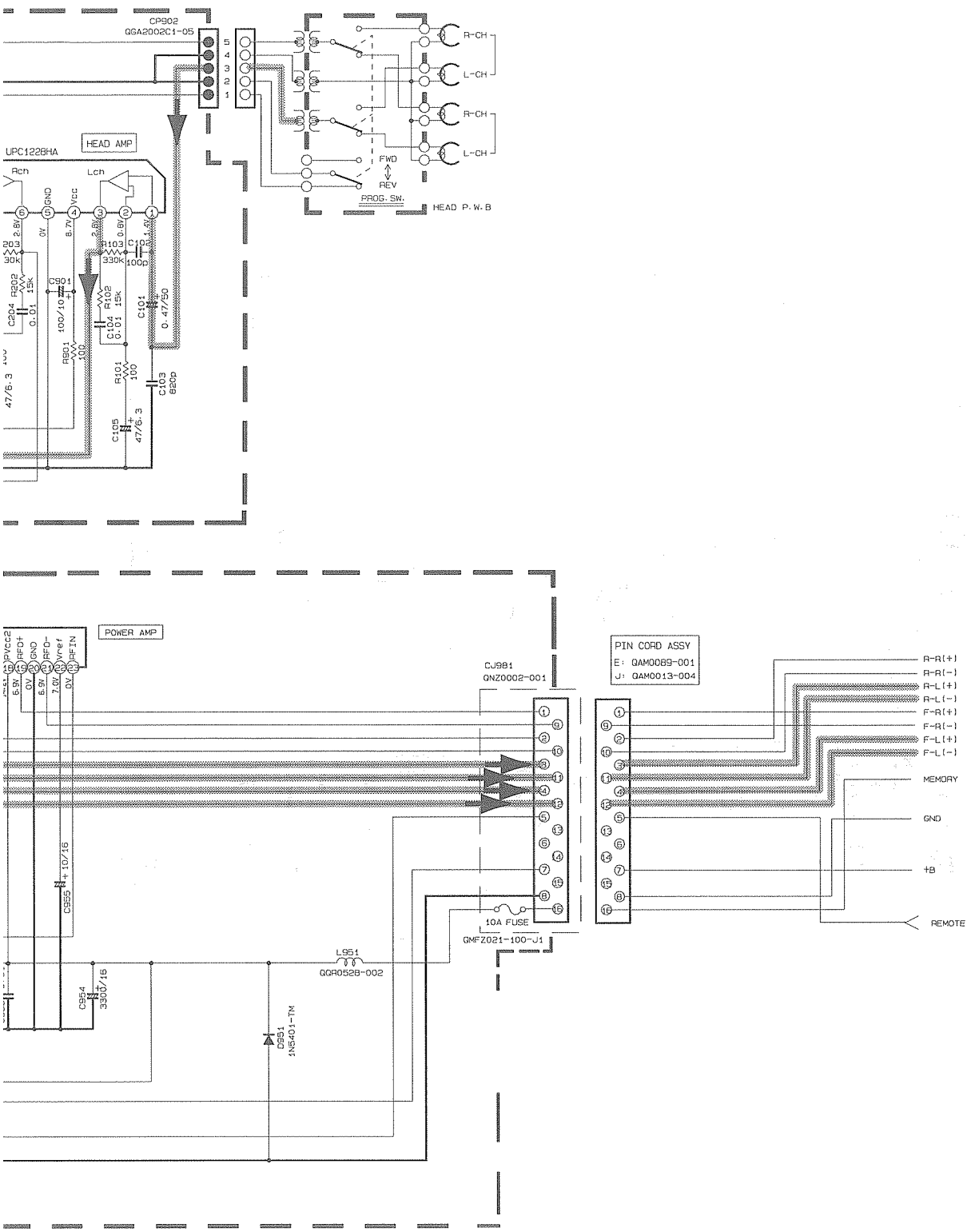


NOTES

1. VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER WITHOUT INPUT SIGNAL.
   CONDITION --- FM MODE
2. UNLESS OTHERWISE SPECIFIED.
   ALL RESISTORS ARE 1/6W 5% CARBON RESISTOR.
   ALL CAPACITORS ARE 50V CERAMIC CAPACITOR.
   ALL RESISTANCE VALUES ARE IN OHM(Ω).
   ALL CAPACITANCE VALUES ARE IN μF(P=pF).
   ALL E.CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE(μF) / RATED VOLTAGE(V).
   ALL DIODES ARE 1SS119-041 UNLESS OTHERWISE SPECIFIED.

* REMARKS	J	E
R124. R224	2.7K	4.3K
R123. R223	3.3K	2.7K
R921	22K	36K

J | K | L | M | N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HEAD AMP
UPC1228HA
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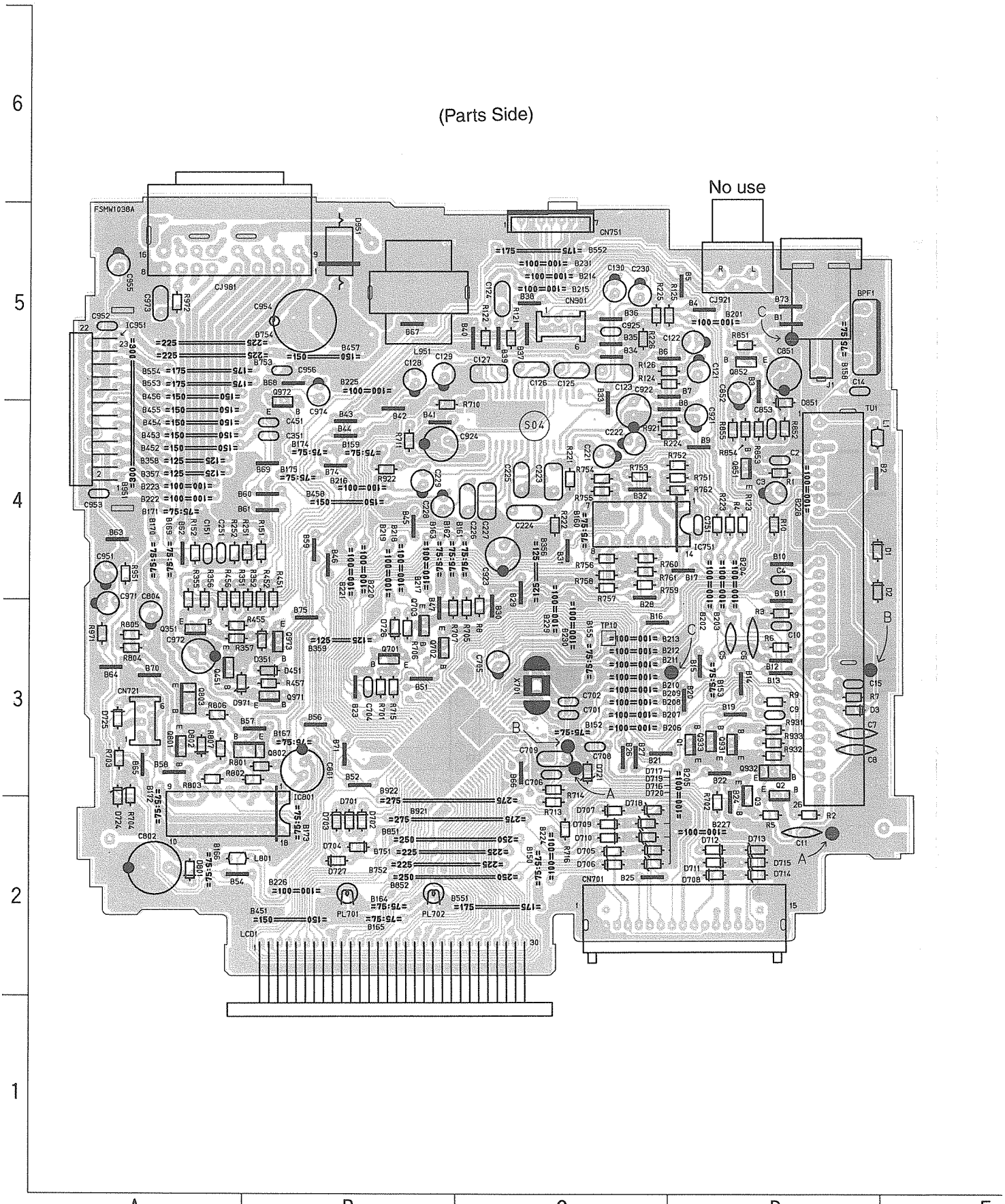
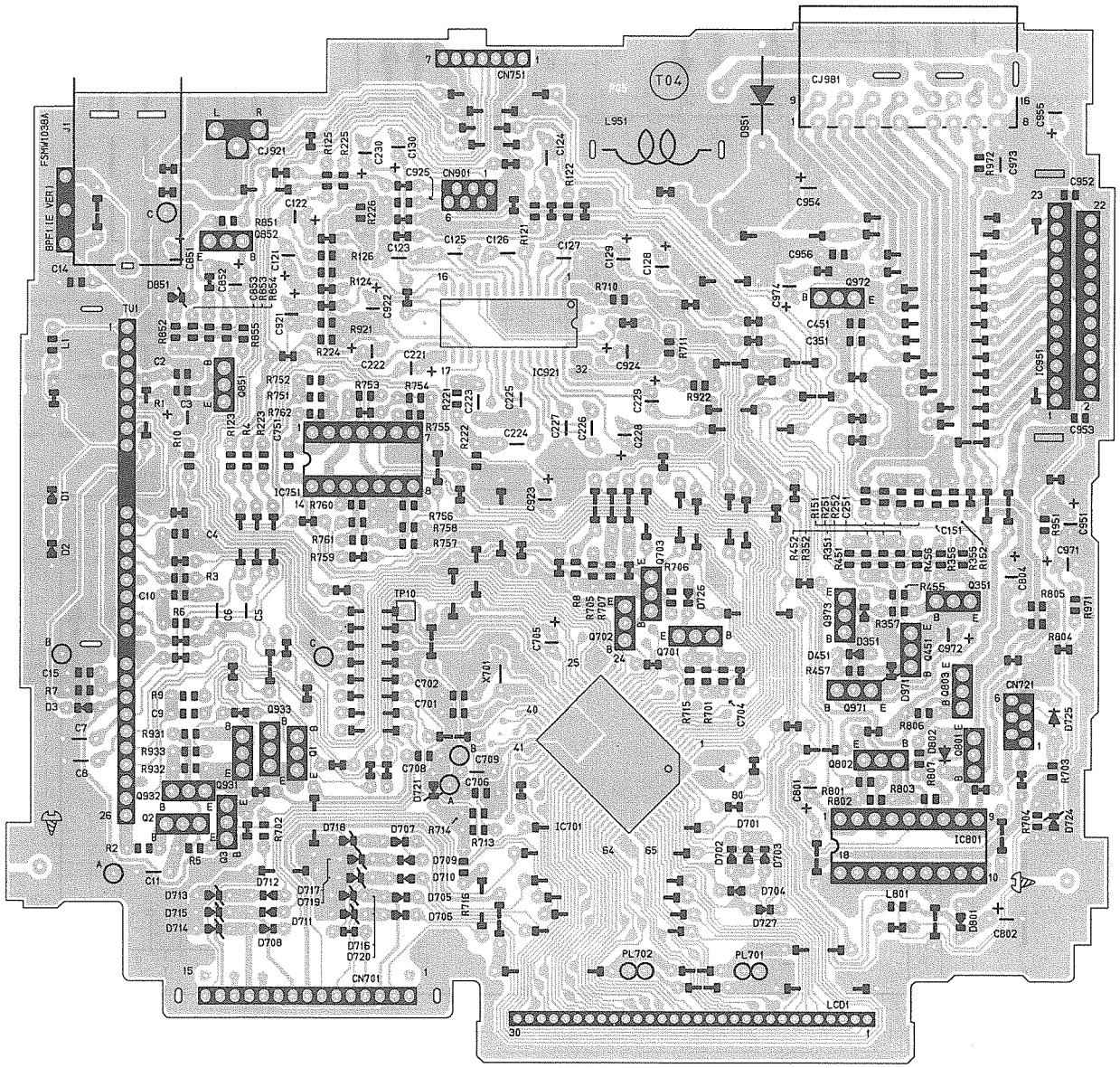
Lch
GND
Vcc
R-CH
L-CH
R-CH
L-CH
FWD
REV
PROG. SW.
HEAD P.W.B
POWER AMP
CJ981
QNZ0002-001
PIN CORD ASSY
E: QAM0089-001
J: QAM0013-004
R-R(+)
R-R(-)
R-L(+)
R-L(-)
F-R(+)
F-R(-)
F-L(+)
F-L(-)
MEMORY
GND
+B
REMOTE
10A FUSE
QMFZ021-100-J1
L951
QQR0528-002
D951
1N5401-TM
C954
3300/16
C955
10/16
TAPE.PB/MAIN SIGNAL
AM/RADIO MAIN SIGNAL
FM RADIO SIGNAL

■ Main Board



(Bottom Side)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R711
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R922
IC921
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D703
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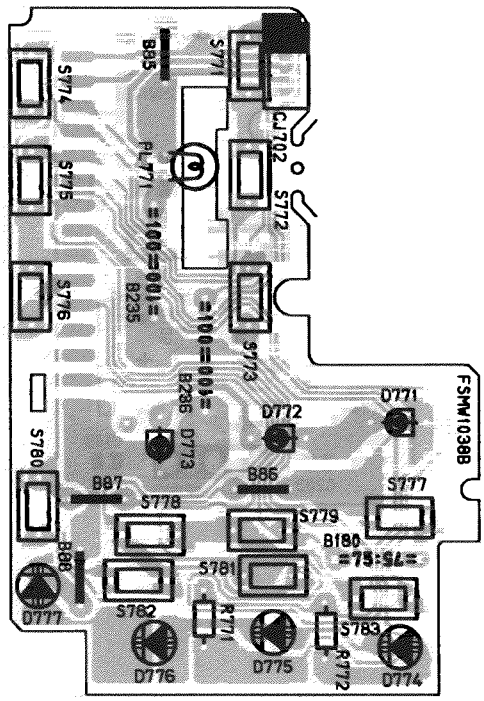
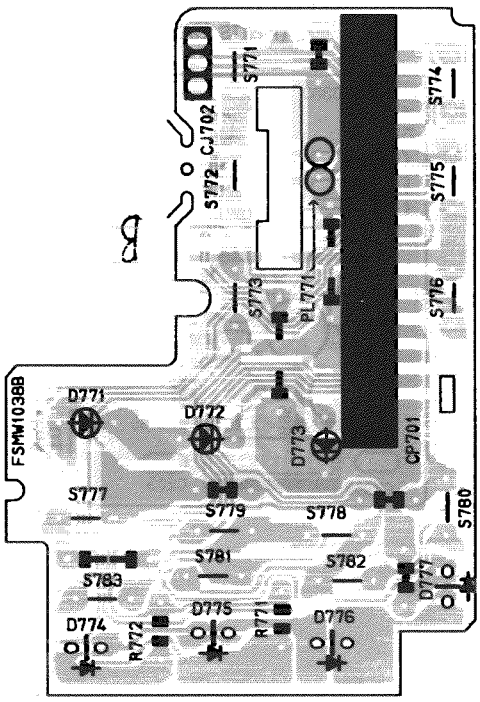
■ Operation Switct Board 1

(Parts Side)

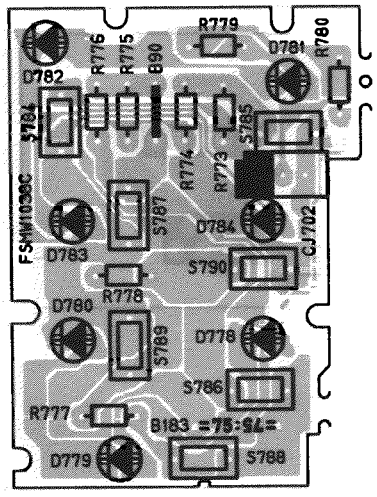


(Pattern Side)



■ Operation Switct 2

(Parts Side)



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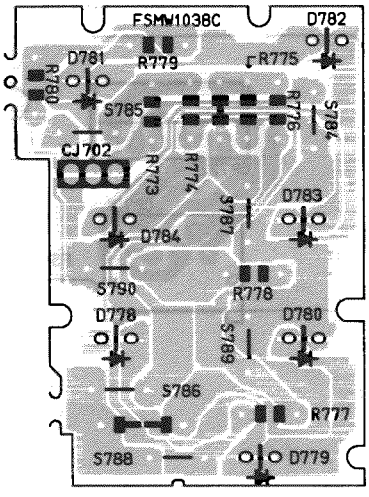
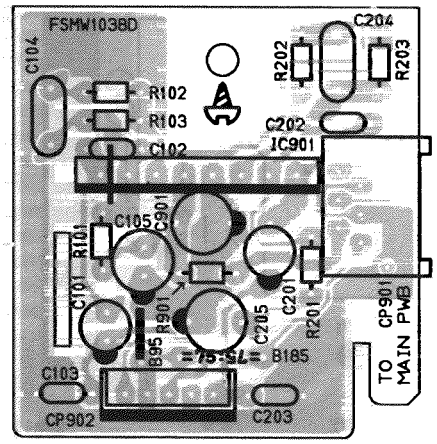
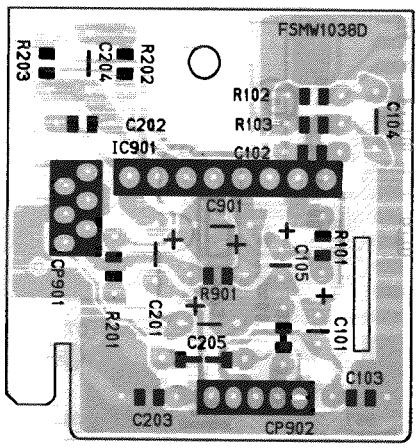


■ Head Relauy Board

(Parts Side)

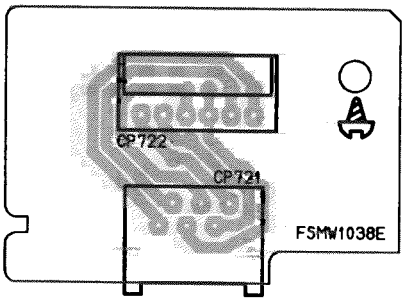


(Bottom Side)

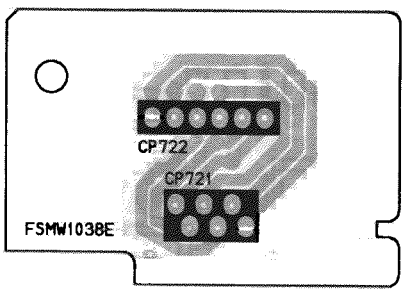


■ Direction Switct Board

(Parts Side)



(Pattern Side)



PARTS LIST

[KS-F90]

* All printed circuit boards and its assemblies are not available as service parts.

Area Suffix

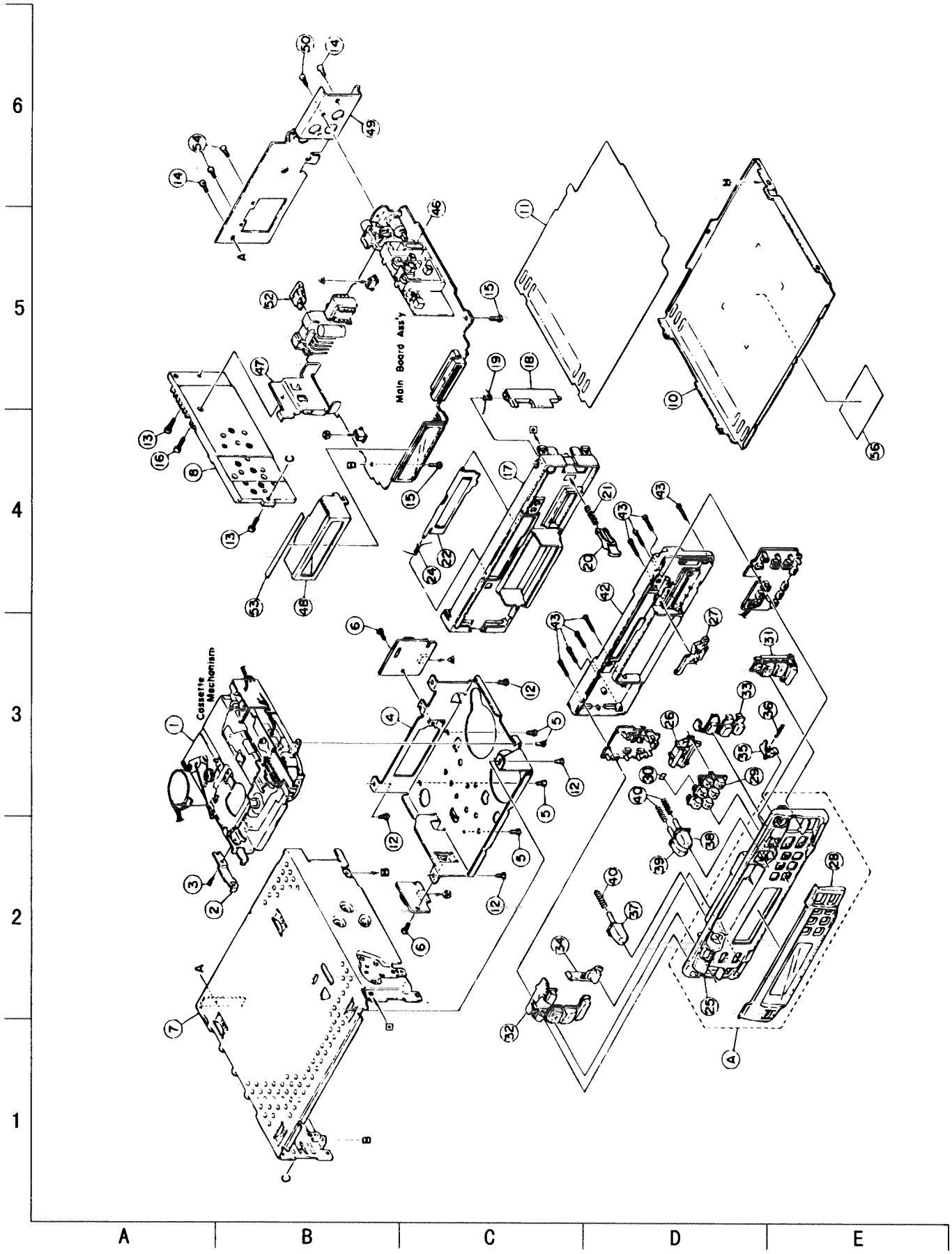
E ------ Continental Europe
J --------U.S.A.

- Contents -

Exproded View Eiclosure Parts and Parts List ---------- 4-2
Exproded View C. Mechanism Parts and Parts List ---------- 4-4
Electrical Parts List ---------- 4-7
Packing Materials and Accessories List ---------- 4-10

4. Analytic Drawing and Parts List

■ **Enclosure Assembly section: Bock No. M1**

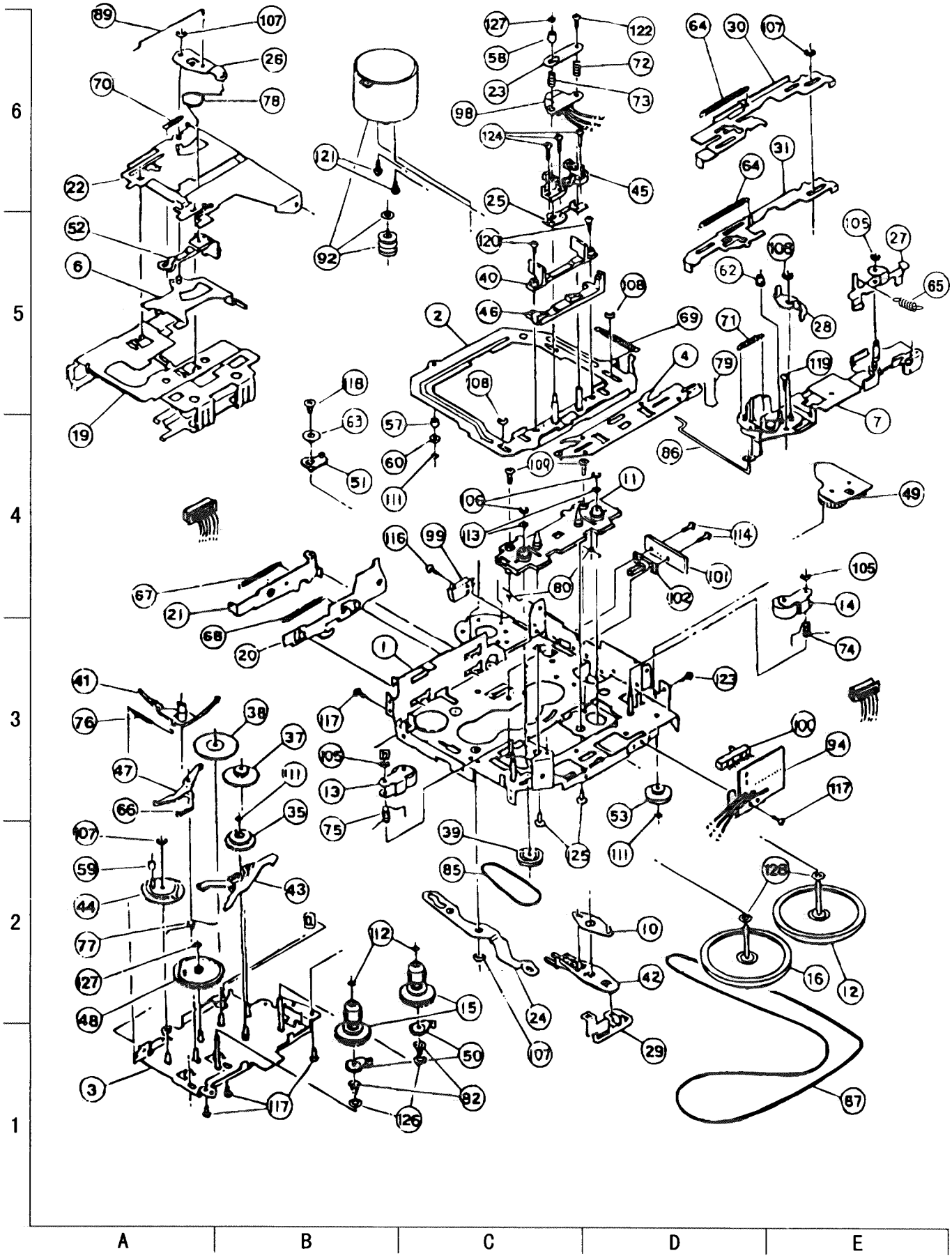


■ Parts List

BLOCK NO. M1MM

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
	A	ZCKSF90J-NPA	FRONT PANEL ASS	NO25,NO28	1		
	1	----------	MECHANISM ASS'Y	2CH HEAD MECHA	1		
	2	VKL7821-001	EJECT LEVER		1		
	3	SPSK2625Z	MINI SCREW		1		
	4	VKL2748-001	MECHA BRACKET		1		
	5	SDSP2604Z	SCREW	MECHA+M.BKT(F)	4		
	6	SDST2606Z	SCREW	C. PWB + M. BKT	2		
	7	FSJC1014-002	CHASSIS		1		
	8	FSKL3004-001	SIDE PANEL		1		
	10	FSKM3004-001	BOTTOM COVER		1		
	11	FSMA3001-002	INSULATOR		1		
	12	SDST2604Z	SCREW	CHASSIS+M.BKT	4		
	13	SDST2608Z	SCREW	CHASSIS+S.PANEL	2		
	14	SDST2606Z	SCREW	CHASSIS+R.BKT	2		
	15	SDST2606Z	SCREW	CHASSIS+MAIN PW	2		
	16	SDST2608Z	SCREW	SIDE PANEL+IC B	1		
	17	FSJC2005-224	FRONT CHASSIS		1		
	18	FSKS3002-001	LOCK LEVER		1		
	19	FSKW4005-003	TORSION SPRING	FOR LOCK LEVER	1		
	20	FSXP3026-002	RLS KNOB		1		
	21	FSKW3002-004	COMP.SPRING		1		
	22	FSJC4003-022	CASSETTE LID		1		
	24	VKW4947-002	DOOR SPRING		1		
	25	FSJC1015-210	FRONT PANEL		1		
	26	FSJK3001-002	LIGHT LENS	FOR PRESET BUTT	1		
	27	FSJK3002-002	LENS	CASSETTE LID	1		
	28	VJD1207-006	FINDER		1		
	29	VXP2099-001SS	PRESET BUTTON		1		
	30	FSYH4036-022	SHEET	FOR PRESET BUTT	1		
	31	VXP1005-201SS	UP/DOWN BUTTON		1		
	32	VXP1006-201SS	+/- BUTTON		1		
	33	VXP2100-201SS	D.FUNC BUTTON		1		
	34	FSXP3019-015	SCAN BUTTON	M.SCAN/MONO	1		
	35	FSXP3020-002	DETACH BUTTON		1		
	36	FSKW3002-002	COMP. SPRING	FOR DETACT BUTT	1		
	37	VXP3763-001	EJECT BUTTON		1		
	38	VXP3764-001	F.F.BUTTON		1		
	39	VXP3765-001	REWIND BUTTON		1		
	40	FSKW3002-003	COMP. SPRING	FOR EJECT BUTTO	1		
		FSKW3002-003	COMP. SPRING	FOR FF BUTTON	1		
		FSKW3002-003	COMP. SPRING	FOR REW BUTTON	1		
	42	FSJC1016-222	REAR COVER		1		
	43	VKZ4777-001	MINI SCREW	FRONT+REAR	8		
	46	VMA4652-001SS	EARTH PLATE		1		
	47	FSKL4019-00A	IC BRACKET		1		
	48	FSYH2002-005	LAMP CASE		1		
	49	FSKM3009-001	REAR BRACKET		1		
	50	SDST2606Z	SCREW		1		
	52	QMFZ021-100-J1	FUSE		1		
	53	FSYH4036-007	SHEET		1		
	54	SDSP2606Z	SCREW		2		
	56	FSYN3042-006	NAME PLATE		1	J	
		FSYN3042-005	NAME PLATE		1	E	

■ Cassette Mechanism Section: Block No. M2



■ Parts List

BLOCK NO. M2MM

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
	1	X-0036-1001S	MAIN CHASSIS AS		1		
	2	X-0036-6082S	HEAD PLATE ASSY		1		
	3	X-0036-1009S	REEL BASE ASS'Y		1		
	4	X-0036-1010S	FR CHANGE ARM A		1		
	6	X-0036-1019S	EJ.CAM LOCK ASY		1		
	7	X-0036-6077S	LEVER BKT ASS'Y		1		
	10	X-0036-1025S	FR ARM(A)ASS'Y		1		
	11	X-0138-2006S	CM BKT ASS'Y(X)		1		
	12	1-0036-6010-0S	FLYWHEEL ASY(BF		1		
	13	1-0138-6002S	PINCH ARM(R)ASS		1		
	14	1-0138-6003S	PINCH ARM(F)ASS		1		
	15	X-0036-6080S	REEL SPINDLE AS		2		
	16	1-0036-6010-1S	FLYWHEEL ASY(BR		1		
	19	1-0138-1010S	CASSETTE HOLDER		1		
	20	1-0036-1006S	EJECT CAM		1		
	21	1-0036-1007S	EJECT LEVER		1		
	22	1-0138-1002S	CASSETTE HANGER		1		
	23	1-0036-1015S	SPG SUPPORT PLT		1		
	24	1-0036-1016S	CONVERSION LEVE		1		
	25	1-0138-1006S	ADJUSTER SHIN(X		1		
	26	1-0036-1018S	CENTER PLATE		1		
	27	1-0036-1013S	LOCK ARM		1		
	28	1-0036-1023S	CHANGE LEVER(B)		1		
	29	1-0036-1026S	FR ARM(B)		1		
	30	1-0036-1065S	FF LEVER(JVC)		1		
	31	1-0036-1066S	REW LEVER(JVC)		1		
	35	1-0036-2001S	IDLE GEAR		1		
	37	1-0036-2004-0S	REDUCT.GEAR(A)		1		
	38	1-0036-2003S	REDUCT.GEAR(B)		1		
	39	1-0036-2005-0S	PULLEY GEAR		1		
	40	1-0038-2018S	TAPE GUIDE		1		
	41	1-0036-2007S	RATCHET		1		
	42	1-0036-2008S	FF ARM		1		
	43	1-0036-2009S	SENSOR ARM		1		
	44	1-0036-2010S	SELECTOR GEAR		1		
	45	1-0138-2005-3S	ADJUSTER ARM(B)		1		
	46	1-0138-2004S	ADJUSTER LINC(X		1		
	47	1-0038-2014S	GEAR LOCK ARM		1		
	48	1-0036-2014S	DETECTOR GEAR		1		
	49	X-0036-2015S	TU GEAR ARM ASY		1		
	50	X-0136-2001S	DETEC. CAM ASSY		2		
	51	1-0038-2034S	MUTE ARM(N)		1		
	52	1-0058-2004S	TAPE HOOKER		1		
	53	1-0058-2021-5S	IDLE PULLEY(A)		1		
	57	1-0036-3024S	HP ROLLER(B)		1		
	58	1-0036-3004S	FF ROLLER		1		
	59	1-0036-3018S	COLLER	SELECTOR GEAR	1		
	60	1-0036-3002S	HP ROLLER(A)		1		
	62	1-0038-3012S	PROGRAM ROLLER		1		
	63	1-0038-3015S	MUTE ARM COLLER		1		
	64	1-0036-4001S	FF/REW LEVER SP		2		
	65	1-0036-4002S	LOCK LEVER SPG		1		
	66	1-0036-4003S	GEAR LOCK ARM S		1		
	67	1-0036-4004S	EJECT LEVER SPG		1		

BLOCK NO. M2MM

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
	68	1-0036-4005S	EJECT CAM SPG		1		
	69	1-0036-4006S	HEAD PLATE SPG		1		
	70	1-0036-4007S	EJ.CAM LOCK SPG		1		
	71	1-0036-4008S	PROGRAM ARM SPG		1		
	72	1-0036-4010S	ADJUST ARM SP(A		1		
	73	1-0036-4011S	ADJUST ARM SP(B		1		
	74	1-0036-4012S	PINCH ARM SPG(F		1		
	75	1-0036-4013S	PINCH ARM SPG(R		1		
	76	1-0038-4014S	RATCHET SPG		1		
	77	1-0036-4015S	DASH SPG		1		
	78	1-0036-4023S	CENTER PLT SP(B		1		
	79	1-0036-4017S	CHANGING ARM SP		1		
	80	1-0036-4018S	EARTH SPG(R)		2		
	82	1-0138-4001S	BACK TEMSION SP		2		
	85	1-0036-5001S	SUB BELT		1		
	86	1-0138-5001S	SELECTOR LINK(B		1		
	87	1-0036-5020S	MAIN BELT(AL)		1		
	89	1-0036-5006S	RETURN LINK		1		
	92	X-0036-6075S	MOTOR ASS'Y	WITH PULLEY	1		
	94	1-0036-7001S	SW PWB		1		
	98	1-0036-7016S	HEAD	P-7542-CF-0358	1		
	99	1-0058-7013S	POWER SW	MQS-4S	1		
	100	1-0036-7007S	SLIDE SW		1		
	101	1-0138-7002S	MUTE PWB		1		
	102	1-0138-7087S	MUTE SW		1		
	105	2-1711-5040-16S	E RING	1.5	3		
	106	2-1711-6032-96S	E RING	1.6X3.2	2		
	107	2-1712-0050-16S	E RING	2	4		
	108	2-1712-5060-16S	E RING	2.5	3		
	109	2-1331-7030-C2S	SCREW S	PL M1.7X3	2		
	111	2-1812-0030-D2S	POLY WASHER(S)	1.2X3X0.25	3		
	112	1-0036-5023S	PSW(REEL)	1.5X3.2X0.2	2		
	113	2-1821-0032-21S	PSW	2.1X3.2X0.2	2		
	114	2-1331-7040-C2S	SCREW S	PL M1.7X4	2		
	116	2-1331-7060-C2S	SCREW S	PL M1.7X6	1		
	117	2-1382-0030-C2S	SCREW B	PL M2X3	5		
	118	2-1362-0040-F2S	SCREW B	FL M2X4	1		
	119	2-1332-0040-C1S	SCREW S	PL M2X4	1		
	120	2-1032-0070-C2S	SCREW	PL M2X7	2		
	121	2-1032-0025-C2S	SCREW	PL M2X2.5	2		
	122	2-1012-0040-C2S	SCREW	PL M2X4	1		
	123	2-1012-0030-F2S	SCREW	FL M2X3	1		
	124	1-0138-5002S	AZIMUTH SCREW	PL M2X5	3		
	125	1-0036-5005S	EJ HOOK SCREW	M2X5	2		
	126	1-0136-5001S	LMW(RED)	2.1X3.5X0.05	2		
	127	1-0036-5024S	PSW(REEL)	1.5X3.2X0.25	2		
	128	1-0036-5028S	LMW(FLY)	2.1X5.5X0.05	2		

BLOCK NO. 01

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	B 62	DSK10C-E	DIODE		
	BPF 1	EQF0201-006	BAND P.FILTOR		E
	C 2	QCVB1CN-103Y	C CAPACITOR	.010MF 30% 16V	
	C 3	QERF1HM-224ZM	E CAPACITOR	.22MF 20% 50V	
	C 4	QCVB1CN-103Y	C CAPACITOR	.010MF 30% 16V	
	C 5	QCC11EM-123V	C CAPACITOR	.012MF 20% 25V	
	C 6	QCC11EK-183ZV	C CAPACITOR	.018MF 10% 25V	
	C 7	QCC11EK-333Z	C CAPACITOR	.033MF 10% 25V	J
	C 7	QCC11EM-223V	C CAPACITOR	.022MF 20% 25V	E
	C 8	QCC11EM-223V	C CAPACITOR	.022MF 20% 25V	E
	C 8	QCC11EK-333Z	C CAPACITOR	.033MF 10% 25V	J
	C 9	QCVB1CN-103Y	C CAPACITOR	.010MF 30% 16V	
	C 10	QCVB1CN-103Y	C CAPACITOR	.010MF 30% 16V	
	C 11	QCC11EK-273Z	C CAPACITOR	.027MF 10% 25V	
	C 14	QCSB1HJ-100Y	C CAPACITOR	10PF 5% 50V	E
	C 15	QCF11HP-473	C CAPACITOR	.047MF +80:-20%	
	C 101	QERF1HM-474ZM	E CAPACITOR	.47MF 20% 50V	
	C 102	QCBB1HK-101Y	C CAPACITOR	100PF 10% 50V	
	C 103	QCBB1HK-821Y	C CAPACITOR	820PF 10% 50V	
	C 104	QFV71HJ-103	TF CAPACITOR	.010MF 5% 50V	
	C 105	QERF0JM-476ZN	E CAPACITOR	47MF 20% 6.3V	
	C 121	QER41EM-475VM	E CAPACITOR	4.7MF 20% 25V	
	C 123	QFLA1HJ-822ZM	M CAPACITOR	8200PF 5% 50V	
	C 124	QFV11HJ-154AZM	TF CAPACITOR	.15MF 5% 50V	
	C 125	QFV41HJ-224	TF CAPACITOR	.22MF 5% 50V	
	C 126	QFV41HJ-333	TF CAPACITOR	.033MF 5% 50V	
	C 127	QFLA1HJ-562ZM	M CAPACITOR	5600PF 5% 50V	
	C 128	QER41HM-105	E CAPACITOR	1.0MF 20% 50V	
	C 129	QER41HM-105	E CAPACITOR	1.0MF 20% 50V	
	C 130	QER41EM-475VM	E CAPACITOR	4.7MF 20% 25V	
	C 151	QCBB1HK-471Y	C CAPACITOR	470PF 10% 50V	
	C 201	QER61HM-474Z	E CAPACITOR	.47MF 20% 50V	
	C 202	QCBB1HK-101Y	C CAPACITOR	100PF 10% 50V	
	C 203	QCBB1HK-821Y	C CAPACITOR	820PF 10% 50V	
	C 204	QFV71HJ-103	TF CAPACITOR	.010MF 5% 50V	
	C 205	QER50JM-476	E.CAPACITOR	47MF 20% 6.3V	
	C 221	QER41EM-475VM	E CAPACITOR	4.7MF 20% 25V	
	C 223	QFLA1HJ-822ZM	M CAPACITOR	8200PF 5% 50V	
	C 224	QFV11HJ-154AZM	TF CAPACITOR	.15MF 5% 50V	
	C 225	QFV41HJ-224	TF CAPACITOR	.22MF 5% 50V	
	C 226	QFV41HJ-333	TF CAPACITOR	.033MF 5% 50V	
	C 227	QFLA1HJ-562ZM	M CAPACITOR	5600PF 5% 50V	
	C 228	QER41HM-105	E CAPACITOR	1.0MF 20% 50V	
	C 229	QER41HM-105	E CAPACITOR	1.0MF 20% 50V	
	C 230	QER41EM-475VM	E CAPACITOR	4.7MF 20% 25V	
	C 251	QCBB1HK-471Y	C CAPACITOR	470PF 10% 50V	
	C 351	QCBB1HK-471Y	C CAPACITOR	470PF 10% 50V	
	C 451	QCBB1HK-471Y	C CAPACITOR	470PF 10% 50V	
	C 701	VYH7653-001	IC HOLDER		
	C 701	QCT30CH-220Y	C CAPACITOR	22PF 5% 50V	
	C 702	QCT30CH-220Y	C CAPACITOR	22PF 5% 50V	
	C 704	QCVB1CN-103Y	C CAPACITOR	.010MF 30% 16V	
	C 705	QER41CM-106	E CAPACITOR	10MF 20% 16V	
	C 706	QCFB1HZ-104Y	C CAPACITOR	.10MF +80:-20%	
	C 708	QCVB1CN-103Y	C CAPACITOR	.010MF 30% 16V	

BLOCK NO. 01

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	C 709	QFV71HJ-103	TF CAPACITOR	.010MF 5% 50V	
	C 801	QER41AM-227N	E CAPACITOR	220MF 20% 10V	
	C 802	QETNOJM-228Z	E CAPACITOR	2200MF 20% 6.3V	
	C 804	QER41HM-225	E CAPACITOR	2.2MF 20% 50V	
	C 851	QER41AM-107	E CAPACITOR	100MF 20% 10V	
	C 852	QER41HM-225	E CAPACITOR	2.2MF 20% 50V	
	C 853	QCGB1HK-102	C CAPACITOR	1000PF 10% 50V	
	C 901	QET41AM-107	E CAPACITOR	100MF 20% 10V	
	C 921	QER41EM-475VM	E CAPACITOR	4.7MF 20% 25V	
	C 921	VYH7653-002	IC HOLDER		
	C 922	QER41CM-476	E CAPACITOR	47MF 20% 16V	
	C 923	QER40JM-107	E CAPACITOR	100MF 20% 6.3V	
	C 924	QER41AM-107	E CAPACITOR	100MF 20% 10V	
	C 925	QCVB1CN-103Y	C CAPACITOR	.010MF 30% 16V	
	C 951	QER41EM-475VM	E CAPACITOR	4.7MF 20% 25V	
	C 952	QCVB1CN-103Y	C CAPACITOR	.010MF 30% 16V	
	C 953	QCVB1CN-103Y	C CAPACITOR	.010MF 30% 16V	
	C 954	QETB1CM-338EE	E.CAPA.	3300MF 20% 16V	
	C 955	QER41CM-106	E CAPACITOR	10MF 20% 16V	
	C 956	QCFB1HZ-104Y	C CAPACITOR	.10MF +80:-20%	
	C 971	QER41EM-475VM	E CAPACITOR	4.7MF 20% 25V	
	C 973	QFV81HJ-473	TF CAPACITOR	.047MF 5% 50V	
	CJ702	MA-Y-D-10-MA-03	CONNECTOR WIRE		
	CJ981	QNZ0002-001	16P CONNECTOR		
	CN701	VMC0319-001	CONNECTOR	FRONT PANEL	
	CN721	QGB1214J1-06S	CONNECTOR	FOR MECHA	
	CN901	QGB1214J1-06S	CONNECTOR		
	CP701	VMC0320-001	CONNECTOR		
	CP721	QGB1214K1-06S	CONNECTOR		
	CP722	QGA2002F1-06	CONNECTOR		
	CP901	QGB1214K1-06S	CONNECTOR		
	CP902	VMC0282-005	CONNECTOR		
	D 1	1SS119-041	SI DIODE		
	D 2	1SS119-041	SI DIODE		
	D 3	1SS119-041	SI DIODE		
	D 702	1SS119-041	SI DIODE		E
	D 704	1SS119-041	SI DIODE		
	D 705	1SS119-041	SI DIODE		
	D 706	1SS119-041	SI DIODE		
	D 707	1SS119-041	SI DIODE		
	D 708	1SS119-041	SI DIODE		
	D 709	1SS119-041	SI DIODE		
	D 710	1SS119-041	SI DIODE		
	D 711	1SS119-041	SI DIODE		
	D 712	1SS119-041	SI DIODE		
	D 713	MTZ5.6JB	ZENER DIODE		
	D 714	MTZ5.6JB	ZENER DIODE		
	D 715	MTZ5.6JB	ZENER DIODE		
	D 716	MTZ5.6JB	ZENER DIODE		
	D 717	MTZ5.6JB	ZENER DIODE		
	D 718	MTZ5.6JB	ZENER DIODE		
	D 719	MTZ5.6JB	ZENER DIODE		
	D 720	MTZ5.6JB	ZENER DIODE		
	D 721	MTZ5.6JB	ZENER DIODE		
	D 724	MTZ5.1JC	ZENER DIODE		

BLOCK NO. 01

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	D 725	DSK10C-E	DIODE		
	D 726	1SS119-041	SI DIODE		
	D 771	SLN-210PCT12	LED		
	D 772	SLN-210PCT12	LED		
	D 773	SLN-210PCT12	LED		
	D 774	SLR-342PCT32	LED		
	D 775	SLR-342PCT32	LED		
	D 776	SLR-342PCT32	LED		
	D 777	SLR-342PCT32	LED		
	D 778	SLR-342PCT32	LED		
	D 779	SLR-342PCT32	LED		
	D 780	SLR-342PCT32	LED		
	D 781	SLR-342PCT32	LED		
	D 782	SLR-342PCT32	LED		
	D 783	SLR-342PCT32	LED		
	D 784	SLR-342PCT32	LED		
	D 801	RB721Q-T2	S.B.DIODE		
	D 802	DSK10C-E	DIODE		
	D 851	MTZ10JAT-77	ZENER DIODE		
	D 951	1N5401TM	DIODE		
	FOR I	VYH7653-001	IC HOLDER		
	FUSE	QMFZ021-100-J1	FUSE		
	IC701	UPD17005GF-E38	IC		
	IC801	TDA3603P	IC		
	IC901	UPC1228HA	IC		
	IC921	TEA6320T-X	IC		
	IC951	HA13158	IC		
	J 1	VMJ4045-101	ANT.SOCKET		
	L 1	VQP0018-4R7	INDUCTOR		
	L 801	VQP0018-470	INDUCTOR		
	L 951	QQR0528-002	CHOKE COIL		
	LCD 1	VGL1195-001	LCD		
	PL701	QLL0002-001	LAMP		J
	PL701	QLL0003-001	LAMP		E
	PL702	QLL0002-001	LAMP		J
	PL702	QLL0002-001	LAMP		E
	PL771	QLL0003-001	LAMP		
	Q 1	DTC114ESA-T	D.TRANSISTOR		
	Q 2	2SA933AS(RS)-T	TRANSISTOR		
	Q 3	DTC114ESA-T	D.TRANSISTOR		
	Q 701	DTA144ES	D.TRANSISTOR		
	Q 702	DTC114ESA-T	D.TRANSISTOR		
	Q 703	DTA114ES	D.TRANSISTOR		
	Q 801	DTC114ESA-T	D.TRANSISTOR		
	Q 802	2SB1322(RS)	TRANSISTOR		
	Q 803	2SB1322(RS)	TRANSISTOR		
	Q 851	2SC1740S/RS/-T	TRANSISTOR		
	Q 852	2SC1740S/RS/-T	TRANSISTOR		
	Q 931	2SA933AS(RS)-T	TRANSISTOR		
	Q 932	2SB1322(RS)	TRANSISTOR		
	Q 933	DTC114ESA-T	D.TRANSISTOR		
	R 1	QRD161J-102	C RESISTOR	1.0K 5% 1/4W	
	R 2	QRD161J-223	C RESISTOR	22K 5% 1/4W	
	R 3	QRD161J-220	C RESISTOR	22 5% 1/4W	
	R 4	QRD161J-563	C RESISTOR	56K 5% 1/4W	J

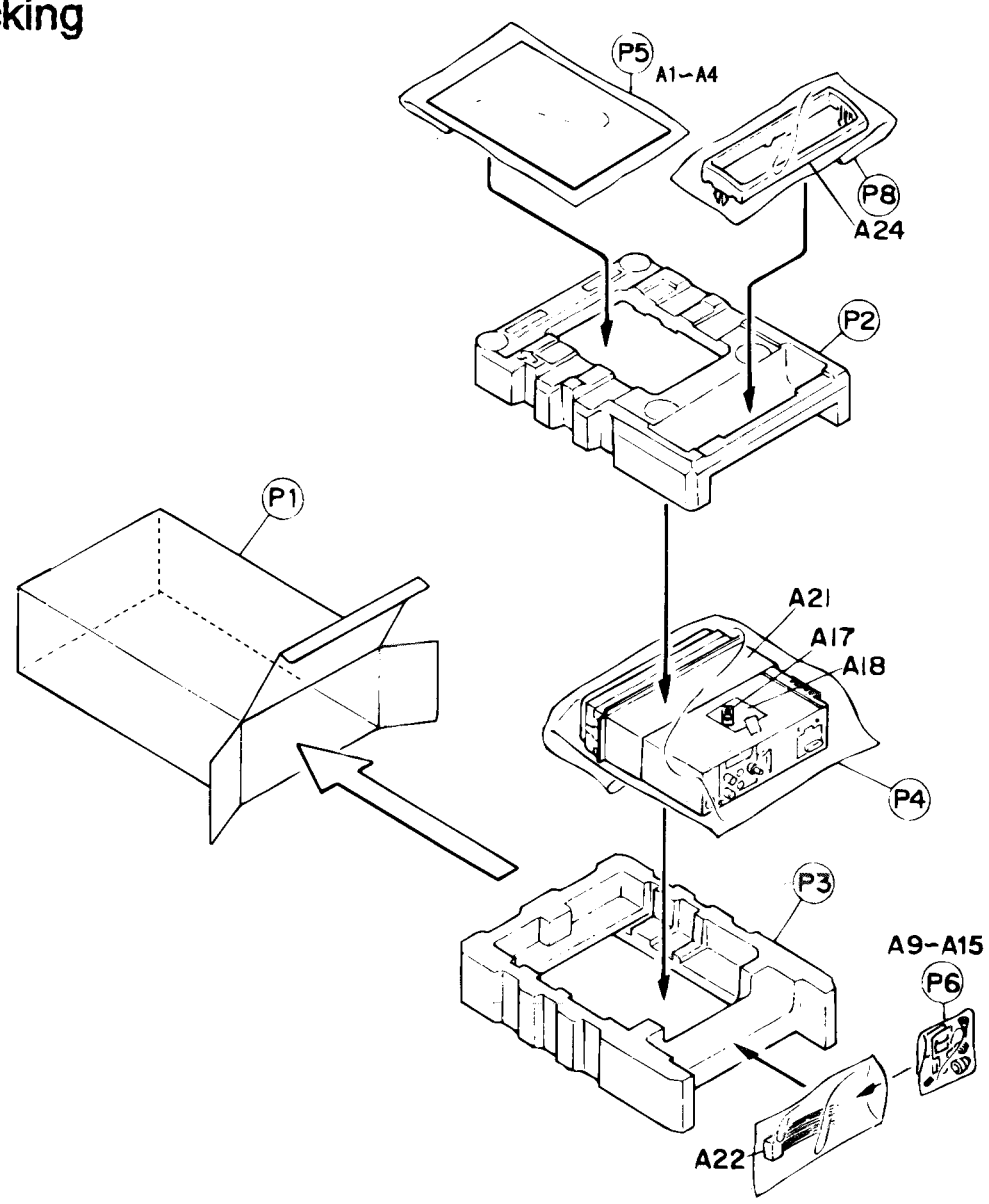
BLOCK NO. 01

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	R 4	QRD161J-433	C RESISTOR	43K 5% 1/4W	E
	R 5	QRD161J-433	C RESISTOR	43K 5% 1/4W	
	R 6	QRD161J-333	C RESISTOR	33K 5% 1/4W	
	R 7	QRD161J-124	C RESISTOR	120K 5% 1/4W	
	R 8	QRD161J-473	C RESISTOR	47K 5% 1/4W	
	R 9	QRD161J-473	C RESISTOR	47K 5% 1/4W	
	R 10	QRD161J-101	C RESISTOR	100 5% 1/4W	
	R 101	QRD161J-101	C RESISTOR	100 5% 1/4W	
	R 102	QRD161J-153	C RESISTOR	15K 5% 1/4W	
	R 103	QRD161J-334	C RESISTOR	330K 5% 1/4W	
	R 121	QRD161J-223	C RESISTOR	22K 5% 1/4W	
	R 122	QRD161J-222	C RESISTOR	2.2K 5% 1/4W	
	R 123	QRD161J-272	C RESISTOR	2.7K 5% 1/4W	E
	R 123	QRD167J-332	C RESISTOR	3.3K 5% 1/4W	J
	R 124	QRD161J-272	C RESISTOR	2.7K 5% 1/4W	J
	R 124	QRD161J-432	C RESISTOR	4.3K 5% 1/5W	E
	R 151	QRD161J-153	C RESISTOR	15K 5% 1/4W	
	R 152	QRD161J-473	C RESISTOR	47K 5% 1/4W	
	R 201	QRD161J-101	C RESISTOR	100 5% 1/4W	
	R 202	QRD161J-153	C RESISTOR	15K 5% 1/4W	
	R 203	QRD161J-334	C RESISTOR	330K 5% 1/4W	
	R 221	QRD161J-223	C RESISTOR	22K 5% 1/4W	
	R 222	QRD161J-222	C RESISTOR	2.2K 5% 1/4W	
	R 223	QRD167J-332	C RESISTOR	3.3K 5% 1/4W	J
	R 223	QRD161J-272	C RESISTOR	2.7K 5% 1/4W	E
	R 224	QRD161J-272	C RESISTOR	2.7K 5% 1/4W	J
	R 224	QRD161J-432	C RESISTOR	4.3K 5% 1/4W	E
	R 251	QRD161J-153	C RESISTOR	15K 5% 1/4W	
	R 252	QRD161J-473	C RESISTOR	47K 5% 1/4W	
	R 351	QRD161J-153	C RESISTOR	15K 5% 1/4W	
	R 352	QRD161J-473	C RESISTOR	47K 5% 1/4W	
	R 451	QRD161J-153	C RESISTOR	15K 5% 1/4W	
	R 452	QRD161J-473	C RESISTOR	47K 5% 1/4W	
	R 701	QRD161J-473	C RESISTOR	47K 5% 1/4W	
	R 702	QRD161J-473	C RESISTOR	47K 5% 1/4W	
	R 703	QRD161J-473	C RESISTOR	47K 5% 1/4W	
	R 704	QRD161J-473	C RESISTOR	47K 5% 1/4W	
	R 705	QRD161J-473	C RESISTOR	47K 5% 1/4W	
	R 706	QRD161J-472	C RESISTOR	4.7K 5% 1/4W	
	R 707	QRD161J-473	C RESISTOR	47K 5% 1/4W	
	R 710	QRD161J-472	C RESISTOR	4.7K 5% 1/4W	
	R 711	QRD161J-472	C RESISTOR	4.7K 5% 1/4W	
	R 713	QRD161J-103	C RESISTOR	10K 5% 1/4W	
	R 714	QRD167J-332	C RESISTOR	3.3K 5% 1/4W	
	R 715	QRD161J-102	C RESISTOR	1.0K 5% 1/4W	
	R 716	QRD161J-181	C RESISTOR	180 5% 1/4W	
	R 757	QRD161J-473	C RESISTOR	47K 5% 1/4W	
	R 758	QRD161J-473	C RESISTOR	47K 5% 1/4W	
	R 761	QRD161J-102	C RESISTOR	1K 5% 1/4W	
	R 771	QRD167J-511	C RESISTOR	510 5% 1/4W	
	R 772	QRD161J-431Y	C RESISTOR	430 5% 1/4W	
	R 773	QRD167J-511	C RESISTOR	510 5% 1/4W	
	R 774	QRD167J-751	C RESISTOR	750 5% 1/4W	
	R 775	QRD161J-102	C RESISTOR	1.0K 5% 1/4W	
	R 776	QRD161J-152	C RESISTOR	1.5K 5% 1/4W	

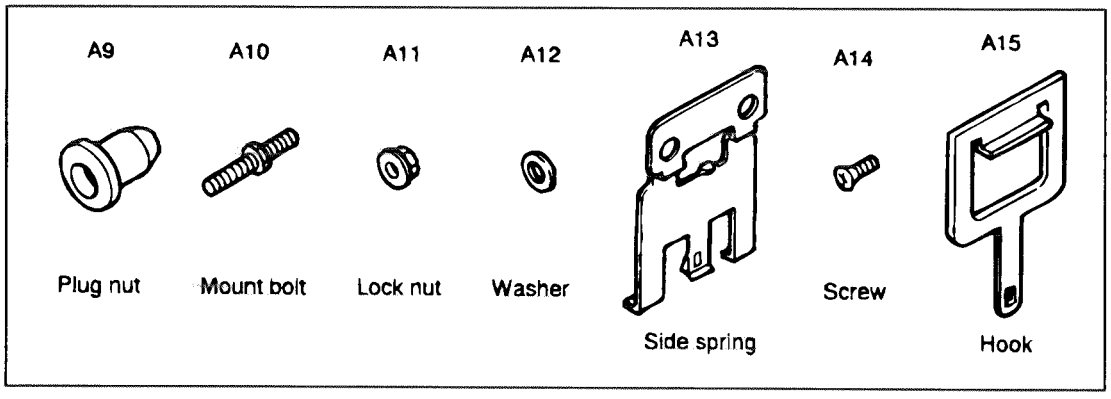
BLOCK NO. 01

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	R 777	QRD161J-272	C RESISTOR	2.7K 5% 1/4W	
	R 779	QRD161J-431Y	C RESISTOR	430 5% 1/4W	
	R 780	QRD167J-511	C RESISTOR	510 5% 1/4W	
	R 801	QRD161J-102	C RESISTOR	1.0K 5% 1/4W	
	R 802	QRD161J-473	C RESISTOR	47K 5% 1/4W	
	R 803	QRD161J-222	C RESISTOR	2.2K 5% 1/4W	
	R 804	QRD161J-103	C RESISTOR	10K 5% 1/4W	
	R 805	QRD161J-203	C RESISTOR	20K 5% 1/4W	
	R 806	QRD161J-473	C RESISTOR	47K 5% 1/4W	
	R 807	QRD161J-222	C RESISTOR	2.2K 5% 1/4W	
	R 851	QRD161J-471	C RESISTOR	470 5% 1/4W	
	R 852	QRD167J-332	C RESISTOR	3.3K 5% 1/4W	
	R 853	QRD161J-821	C RESISTOR	820 5% 1/4W	
	R 854	QRD161J-331	C RESISTOR	330 5% 1/4W	
	R 855	QRD161J-152	C RESISTOR	1.5K 5% 1/4W	
	R 901	QRD161J-101	C RESISTOR	100 5% 1/4W	
	R 921	QRD161J-223	C RESISTOR	22K 5% 1/4W	J
	R 921	QRE141J-363Y	C RESISTOR	36K 5% 1/4W	E
	R 922	QRD161J-100	C RESISTOR	10 5% 1/4W	
	R 931	QRD161J-222	C RESISTOR	2.2K 5% 1/4W	
	R 932	QRD161J-473	C RESISTOR	47K 5% 1/4W	
	R 933	QRD161J-222	C RESISTOR	2.2K 5% 1/4W	
	R 951	QRD161J-472	C RESISTOR	4.7K 5% 1/4W	
	R 971	QRD161J-472	C RESISTOR	4.7K 5% 1/4W	
	R 972	QRD161J-470	C RESISTOR	47 5% 1/4W	
	S 771	QSW0643-001Z	TACT SWITCH		
	S 772	QSW0643-001Z	TACT SWITCH		
	S 773	QSW0643-001Z	TACT SWITCH		
	S 774	QSW0643-001Z	TACT SWITCH		
	S 775	QSW0643-001Z	TACT SWITCH		
	S 776	QSW0643-001Z	TACT SWITCH		
	S 777	QSW0643-001Z	TACT SWITCH		
	S 778	QSW0643-001Z	TACT SWITCH		
	S 779	QSW0643-001Z	TACT SWITCH		
	S 780	QSW0643-001Z	TACT SWITCH		
	S 781	QSW0643-001Z	TACT SWITCH		
	S 782	QSW0643-001Z	TACT SWITCH		
	S 783	QSW0643-001Z	TACT SWITCH		
	S 784	QSW0643-001Z	TACT SWITCH		
	S 785	QSW0643-001Z	TACT SWITCH		
	S 786	QSW0643-001Z	TACT SWITCH		
	S 787	QSW0643-001Z	TACT SWITCH		
	S 788	QSW0643-001Z	TACT SWITCH		
	S 789	QSW0643-001Z	TACT SWITCH		
	TU 1	QAU0003-001	TUNER PACK		
	X 701	VCX5026-001Z	CRYSTAL		

Packing



■ Accessories: SCREW KIT 1 break down



■ Packing List

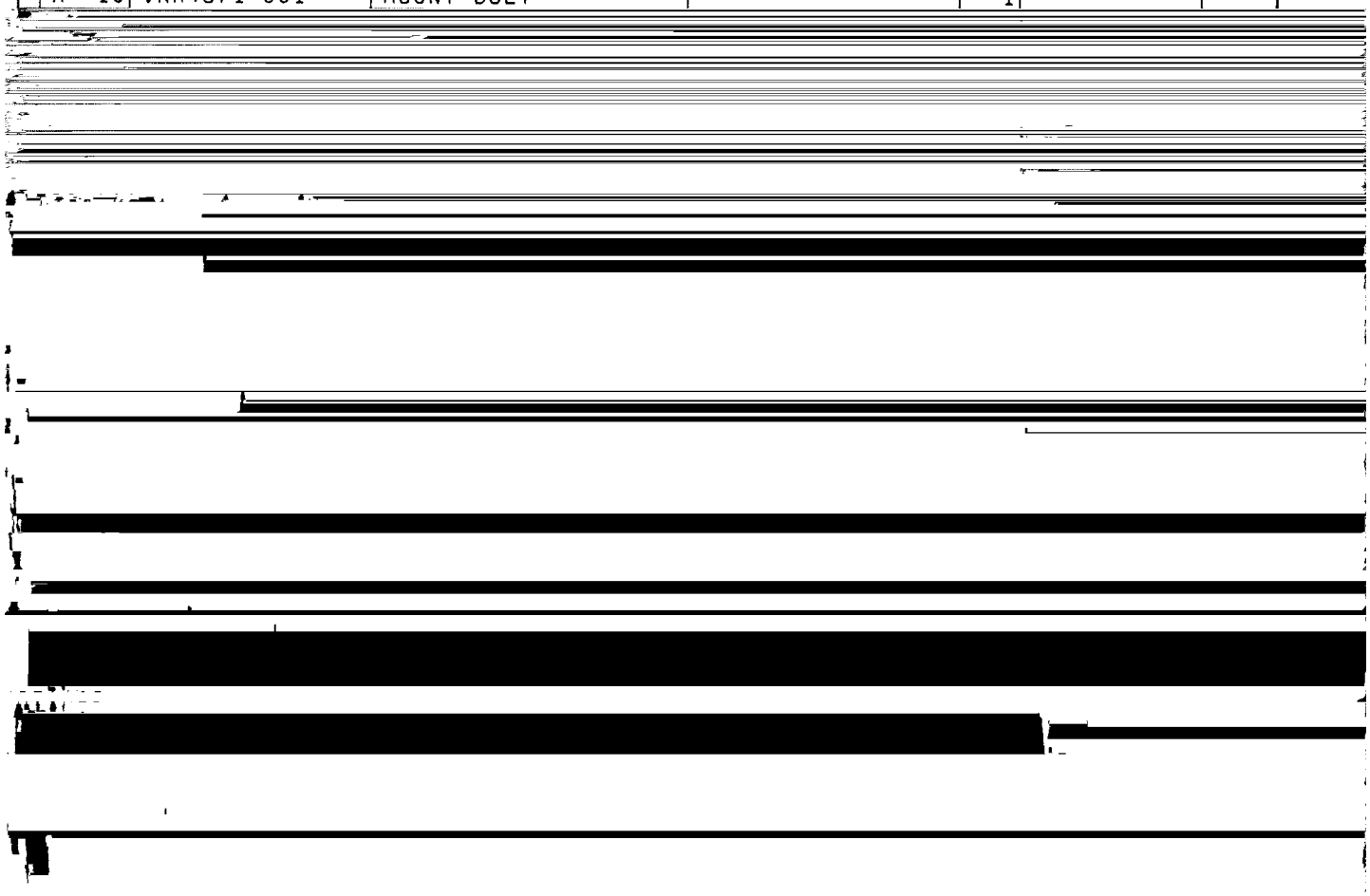
BLOCK NO. M3MM□□□

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
	P 1	FSPE3001-082	CARTON		1	E	
		FSPE3001-081	CARTON		1	J	
	P 2	FSPH1011-001	CUSHION(T)		1		
	P 3	FSPH1012-001	CUSHION(B)		1		
	P 4	VPE3005-066	POLY BAG	SET(270X450X0.0	1		
	P 5	QPA01702505P	POLY BAG	INSTRUCTION	1	J	
		QPA01703505P	POLY BAG	INSTRUCTION	1	E	
	P 6	QPA00801205	POLY BAG		1		
	P 8	QPGA010-03003	POLY BAG	FOR TRIM PLATE	1		

■ Accessories List

BLOCK NO. M4MM□□□

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
	A 1	FSUN3042-T211S	INSTRUCT.SHEET		1	E	
		FSUN3042-T451S	INSTRUCT.SHEET		1	E	
		FSUN3042-T481S	INSTRUCT.SHEET		1	E	
		FSUN3042-311S	INSTRUCTIONS		1	E	
		FSUN3042-321S	INSTRUCTIONS		1	E	
		FSUN3042-T631S	INSTRUCT SHEET		1	J	
		FSUN3042-631S	INSTRUCTIONS	PRINTED IN SING	1	J	
	A 3	BT-51009-3	WARRANTY CARD	FOR USA ONLY	1	J	
		BT-52001-4	WARRANTY CARD	FOR CANADA ONLY	1	J	
		BT-54008-1	WARRANTY CARD		1		
		BT-54008-1	WARRANTY CARD		1	E	
	A 4	BT-20071B	SVC CENTER LIST	FOR CANADA ONLY	1	J	
		BT-20137	SVC CENTER LIST	FOR USA ONLY	1	J	
	A 9	VKZ4027-002	PLUG NUT		1		
	A 10	VKH4871-001	MOUNT BOLT		1		



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VICTOR COMPANY OF JAPAN, LIMITED
MOBIL ELECTRONICS DIVISION,10-1,1Chome,Ohwatari-machi,Maebashi-city,371-8543,Japan

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